DOCUMENT RESUME

ED 184 695 **PS 011 335**

AUTHOR	Hill, Ann: And Others
TITLE	Abstracts on Child Play Areas and Child Support Facilities.
INSTITUTION	Wisconsin Univ., Milwaukee. School of Architecture and Urban Planning.
SPONS AGENCY	Office of the Chief of Engineers (Army), Washington, D.C.
REPORT NO	UW-SAUP-R78-4
PUB DATE	Nov 78
CONTRACT	DACA73-78-C-0005
NOTE	108p.; For related documents, see PS 011 335-337. Document contains several pages of photographs that may not reproduce well. Pages 96-99 of the bibliography may be of marginal legibility due to light print.
AVAILABLE FROM	Publications in Architecture and Urban Planning Research, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201 ($5.00)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Abstracts; *Children; Day Care; *Day Care Centers; Design; *Design Requirements; Early Childhood Education; Environmental Influences; *Facility Planning; Physical Environment; Play; *Playgrounds; Theories

ABSTRACT

Abstracts of 40 selected books and articles on the topic of interactions between children and their environments are provided in this document. Works abstracted were selected from a pool of over 1200 items. The abstracts are organized into five categories: (1) theories of child care and play; (2) child-environment research; (3) descriptions of facilities; (4) design guides; and (5) bibliographies. These materials, and approximately 800 more, are accessible through SPIN, an information storage and retrieval system developed at the School of Architecture and Urban Planning, University of Wisconsin, Milwaukee. (Author/RH)

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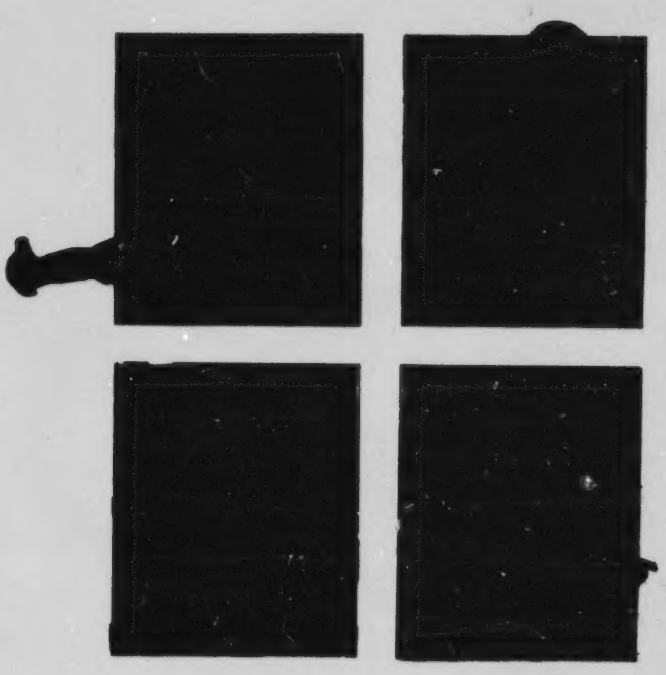
ABSTRACTS ON CHILD PLAY AREAS AND CHILD SUPPORT FACILITIES



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ABSTRACTS ON CHILD PLAY AREAS AND CHILD SUPPORT FACILITIES

Ann B. Hill
Carol G. Lane

with
Uriel Cohen
Gary T. Moore
Tim McGinty

Task III(b) of Contract No. DACA73-78-C-0005

U.S. Department of the Army
Office of the Chief of Engineers
Special Projects Branch
Washington, D.C.

COMMUNITY DESIGN CENTER, INC. MILWAUKEE
WITH
CENTER FOR ARCHITECTURE AND URBAN PLANNING RESEARCH
UNIVERSITY OF WISCONSIN - MILWAUKEE

November 1978

This document is dedicated to our friends:

Miko McGinty

Sharon Cohen

Mindan Gunther-Moore

Molly Jules

PUBLICATIONS IN ARCHITECTURE AND URBAN PLANNING

Center for Architecture and Urban Planning Research
University of Wisconsin-Milwaukee
P. O. Box 413
Milwaukee, WI 53201

Report R78-4

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PREFACE AND ACKNOWLEDGMENTS

This document is a joint product of the Center for Architecture and Urban Planning Research, University of Wisconsin-Milwaukee (UWM), and the Community Design Center, Inc. of Milwaukee (CDC). The document was prepared as part of Task III, Criteria and Literature Search and Analysis, of Contract No. DACA73-78-C-005 between the U.S. Department of the Army, Office of the Chief of Engineers, and CDC, Inc. and its subcontractor, UWM.

The abstracts were written by Ann B. Hill and Carol G. Lane. Editing was done by Gary T. Moore and Heidi Marie Hollenbeck, and overall task management was handled by Uriel Cohen, all of the UWM Project Team. Graphics and illustrations were done by Tim McGinty, Project Manager at CDC, Inc.

Our special thanks to David J. Parsons, the originator of SPIN who developed the computer listing of the Bibliography. And our thanks to other people of the UWM Project Team who helped in many ways. Data entry was done by Susan Cormier, Susan Meier, and Barbara Faulhaber. Typing of the final document was done by Lisa Lindberg Work. Layout and production was done by Donald Gatzke.

The overall goal of the Environments for Play and Child Care Project is to develop a new design guide and technical manual for the planning and design of child support facilities and outdoor play areas on U.S. Army bases around the country. The current task is only a small part of that overall objective, and this document is an interim report.

It is our hope, however, that the information contained herein will be of direct benefit to those concerned with the better planning and design of children's environments. In this regard, the information is general, and applies equally well to all environments for children -- both military and civilian, inner-city, suburban, and rural, and indoor child-care facilities and outdoor play areas.

INTRODUCTION

PROCESS AND CRITERIA

PURPOSE

The purpose of this document is to present some of the more important literature on the topic area of child-environment interactions which is relevant to the planning and design of child-support facilities (infant centers, child-care centers, early childhood development centers, and preschools) and of outdoor play areas (playgrounds, community-based play, and play in residential settings).

The majority of the document is devoted to abstracts of 40 of the most important works in the field. Books and articles were selected according to criteria described below, while abstracts were written with the intention of including as much content as the limited space would allow. Readers should be able to glean sufficient information from the abstracts to then decide which sources to pursue in greater depth.

A sample of an extensive on-line computer-filed bibliography is appended.

LITERATURE SEARCH

The selection of items for abstracting was preceeded by a search for all literature pertaining to the planning and design of children's facilities, indoor and outdoor. This search included print bibliographies and indexes in architecture, landscape architecture, environment-behavior studies, education, early childhood education, and developmental psychology. It also included computer searches through the ERIC (Educational Resources Information Center) System and other computer-based indexes and our own extensive library collection and files.

The search eventually disclosed well over 1200 items, books, and articles, which constitute the present state of knowledge in the fields of child development, early childhood education, and child-environment interactions pertaining to the planning and design of child-care centers and play areas. Of these, more than 800 were found to make a substantial enough contribution to warrant inclusion in the project's computer coding system.

HIERARCHICAL VOCABULARY FOR INFORMATION RETRIEVAL
ENVIRONMENTS FOR PLAY AND CHILD CARE PROJECT

I. TYPES OF INFORMATION

- THEORY
- METHODS
- EMPIRICAL RESEARCH
- EXPERT OPINION
- ANECDOTES
- DESCRIPTIONS OF FACILITIES
- PRODUCT INFORMATION
- REGULATIONS
- DESIGN GUIDELINES
- FILMS
- BIBLIOGRAPHIES
- PHOTOS
- PROGRAM PHILOSOPHIES

II. PEOPLE

- CHILDREN
  - INFANTS TODDLERS
  - PRE SCHOOLERS
  - SCHOOL AGE CHILDREN
  - ADOLESCENTS
- ADULTS
  - PROFESSIONAL STAFF
  - NON-PROFESSIONAL STAFF
  - PARENTS
  - VISITORS
  - ELDERLY
  - DESIGNERS
- HANDICAPPED
  - PHYSICALLY HANDICAPPED
  - LEARNING DISABLED RETARDED

III. GOALS

- HUMAN DEVELOPMENT
  - MOTOR DEVELOPMENT
  - PERCEPTUAL COGNITIVE DEVEL.
  - PERSONALITY SOCIAL DEVEL.

IV. ACTIVITIES

- CHILDREN'S ACTIVITIES
  - CHILDREN'S TYPE OF ACTIVITY
    - PHYSICAL ACTIVITIES
    - COGNITIVE MANIP. ACTIVITY
    - SOCIAL ACTIVITIES
    - INDIVIDUAL ACTIVITIES
    - GROUP ACTIVITIES
    - SPONTANEOUS ACTIVITIES
    - PROGRAMMED ACTIVITIES
    - PLAY
  - CHILDREN'S SPECIFIC ACTIVITY
    - AGGRESSIVE ACTIVITIES
    - ANIMAL PLAY
    - ARTS AND CRAFTS
    - BALL GAMES
    - BUILDING ACTIVITIES
    - CRAWLING
    - EATING
    - EXPLORATORY PLAY
    - FANTASY AND DRAMA
    - FIRE PLAY
    - FOOD PREPARATION
    - GARDENING
    - LARGE MUSCLE ACTIVITIES
    - MATHEMATICAL ACTIVITIES
    - MUSIC AND DANCE ACTIVITIES
    - NAPPING RESTING
    - ORGANIZED SPORTS
    - OUTDOORS RECREATION
    - QUIET ACTIVITIES
    - READING LISTENING
    - RUNNING
    - SAND AND WATER PLAY
    - SCIENCE ACTIVITIES
    - SIDEWALK GAMES
    - SMALL MANIPULATIVE ACTIVITY
    - TALKING
    - WALKING
    - WATCHING
    - WHEEL TOY PLAY
- ADULTS' ACTIVITIES
  - CHILD ADULT INTERACTIONS
  - ADULT ADULT INTERACTIONS
  - STAFF ADMIN. ACTIVITIES
  - OBSERVING RESEARCH

V. ENVIRONMENTAL SETTINGS

- PHYSICAL ENVIRONMENT
  - NATURAL ENVIRONMENT
    - ANIMALS
    - CLIMATE
    - GEOLOGICAL FORMATIONS
    - PLANTS VEGETATION
  - BUILT ENVIRONMENT
    - FACILITIES
      - EDUCATIONAL FACILITIES
        - DAY CARE CENTERS
          - IN HOME CARE
          - FAMILY DAY CARE
          - CENTER BASED DAY CARE
          - DAY CARE NETWORK
          - PART DAY CARE
          - FULL DAY CARE
          - CUSTODIAL DAY CARE
          - DEVELOPMENTAL DAY CARE
        - INFANT CARE CENTERS (see Day Care Centers)
        - NURSERY SCHOOLS (see Day Care Centers)
        - PRESCHOOLS (see Day Care Centers)
        - CHILD STUDY CENTERS (see Day Care Centers)
        - EARLY CHILD DEVEL. CENTERS (see Day Care Centers)
        - ELEMENTARY SCHOOLS
        - SPECIAL EDUCATION FACILITIES
        - OTHER EDUCATIONAL FACILITIES
      - RECREATION FACILITIES
        - OUTDOOR PLAY AREAS
          - CONVENTIONAL PLAY AREAS
          - SCULPTURAL PLAY AREAS
          - ADVENTURE PLAY AREAS
          - NATURAL PLAY AREAS
          - COMMUNITY BASED PLAY AREAS
          - COMPREHENSIVE PLAY AREAS
        - PARKS
        - RECREATION BUILDINGS
        - SPORTS FIELDS
        - THEME PARKS
        - ZOOS
      - RESIDENTIAL SETTINGS
        - SINGLE FAMILY HOUSING
        - MULTIFAMILY HOUSING
        - GROUP HOMES
      - CIVIC BUILDINGS
        - CHILDREN'S MUSEUMS
        - CHILDREN'S SCIENCE CENTERS
      - COMMUNITY CENTERS
      - ENTERTAINMENT FACILITIES
      - HEALTHCARE FACILITIES
        - CHILDREN'S HOSPITALS

ENVIRONMENTAL SETTINGS (continued)

PHYSICAL ENVIRONMENT (continued)

BUILT ENVIRONMENT (continued)

- BEHAVIOR SETTINGS
  - BUILDING AS A WHOLE
    - RENOVATION
  - INDOOR SETTINGS
    - BATHROOMS CHANGING AREAS
    - CHILD ACTIVITY AREAS (plus see Activities)
    - CIRCULATION AREAS
    - DISPLAY AREAS
    - EATING AREAS
    - ENTRY TRANSITION AREAS
    - FOOD PREPARATION AREAS
    - HEALTH CARE AREAS
    - NAPPING AREAS
    - OBSERVATION RESEARCH AREAS
    - PARENT STAFF AREAS
    - RESOURCE AREAS
    - SERVICE UTILITY AREAS
    - [illegible] SERVICE AREAS
    - [illegible] AREAS
    - STORAGE AREAS
  - SITE AS A WHOLE
  - OUTDOOR SETTINGS
    - NATURAL AREAS
    - OPEN SPACE
    - OUTDOOR ADULTS' AREAS
    - OUTDOOR CIRCULATION AREAS
    - OUTDOOR PLAY AREAS
    - OUTDOOR STORAGE AREAS
    - PLAY SHELTERS
    - SERVICE AREAS
    - UTILITIES
- BUILDING ELEMENTS
  - BUILDING MATERIALS
  - ELECTRICAL SYSTEMS
  - FINISHES COLOR
  - HARDWARE
  - HVAC MECHANICAL SYSTEMS
  - PLUMBING
  - STRUCTURAL SYSTEMS
- LANDSCAPING MATERIALS
- FURNISHINGS AND EQUIPMENT
  - INDOOR FURNISHINGS
    - INDOOR DAY CARE FURNISHINGS
  - OUTDOOR EQUIPMENT
    - OUTDOOR PLAY EQUIPMENT
  - TOYS
  - LOOSE PARTS
  - FOUND OBJECTS

VI. ENVIRONMENT BEHAVIOR CONCEPTS

- ACOUSTICS
- ADAPTATION
- AESTHETICS
- ANTHROPOMETRICS
- AMBIGUITY COMPLEXITY
- ATTRACTION
- BARRIERS
- COMMUNITIES AND NEIGHBORHOODS
- DENSITY AND CROWDING
- ENVIRONMENTAL COGNITION
- ENVIRONMENTAL EXPERIENCE
- ENVIRONMENTAL PERCEPTION
- EXPLORATORY BEHAVIOR
- IMAGERY
- LIGHT
- ORIENTATION AND WAYFINDINGS
- PREFERENCES AND DISPOSITIONS
- PRIVACY
- PROXIMITY
- SAFETY
- SCALE
- SECURITY
- SENSE OF PLACE
- SMALL GROUP ECOLOGY PROXEMICS
- STRESS
- SYMBOLISM
- TERRITORIALITY
- TRAVEL BEHAVIOR
- VIEWS

VII. ISSUES

- ACCESS
- ADMINISTRATION STAFFING
- ATTITUDES OF PUBLIC
- CHILDREN AS DESIGNERS
- CHILDREN IN THE CITY
- COMMUNITY BASED PLAY
- COMMUNITY INVOLVEMENT
- CONSERVATION FOR CHILDREN
- COSTS ECONOMICS
- LOCATION SITE SELECTION
- NETWORK OF LEARNING
- PLANNING PROCESS
- SAFETY
- SIZE SCALE
- _____
- _____
- _____
- _____
- _____
- _____
- _____

CODING

Any information in the child-environment area can be conceptualized in terms of three major axes:

- people/user groups
- activities/concepts
- settings/places

The SPIN system, described below, allowed coding of each item according to a hierarchically-arranged list of subject headings derived from this conceptualization. The coding form is shown in the accompanying illustration. As can be seen, coding was done by checking all categories or specific subject headings which describe the book or article. Additional coding covered the type of information represented in the article (e.g., empirical research, architectural descriptions of facilities, developmental goals, or special issues).

By accessing the SPIN system, listings of source materials can be retrieved as needed for various subject areas. For example, information about safety on adventure playgrounds may be found by asking the computer to match "outdoor play areas," "adventure play areas," and "safety" and give all listings which have been coded in terms of all three of these elements. Listings can be retrieved for any possible combinations of subject headings at any time in the future.

CRITERIA

During the coding process, and during the subsequent preparation of the criteria document for new play and child care facilities (see Task III Report, *Criteria Document*), notes were kept on articles and books for possible selection for abstracts. The criteria for final selection of items were the following.

For individual items:

- must be quality work in one or more of the following: theory, research, or design application
- should be published or otherwise readily and widely available

For the list of items as a whole:

- should maintain a balance between information

on child-care facilities and outdoor play areas

- should maintain a balance between empirical research and pragmatic experience-based opinions
- should include representation of some of the newest trends and leading-edge ideas in the field
- should represent at least one work by most of the leading theoreticians, researchers, and designers in the field
- should include examples of other design guides and other published bibliographies
- should be useful to administrators, educators, designers, and laypersons working in the area of providing good environments for children

ORGANIZATION

The 40 abstracts are organized into five categories:

- theories of child care and play
- child-environment research
- descriptions of facilities
- design guides
- bibliographies

It is our frevent hope that this process has resulted in an understandable and practical document.

THE SPIN SYSTEM*

SPIN is an information storage and retrieval system developed at the School of Architecture and Urban Planning, University of Wisconsin-Milwaukee. It was designed to meet the requirements of a variety of situations, both in specialized libraries and in special projects. Three premises underlay the development of SPIN:

- Effective management of information must be based on an understanding of the relationship between information and decision-making.
- There is no single correct conceptual order for information. The different roles that people play in solving problems are correctly reflected in differing points of view, and therefore, in differing conceptual orders.
- A primary function of information management is to bridge the gaps between the differing conceptual frameworks of people participating in shaping the human environment.

The application of SPIN to this particular project involved three steps. First, the general vocabulary of the SPIN system was reviewed and terms applicable to this project were selected. This vocabulary provides sufficient descriptive power to sort project information into meaningful categories, and is organized in a hierarchical structure from broad to narrow concepts. If necessary, as in this project, extra specialized terms are added to the generally available vocabulary.

The second step was the indexing of project information according to the terms selected. These terms provided a checklist for indexing. On this project, a special indexing form -- called a coding form -- was developed which enabled each reference to indexed according

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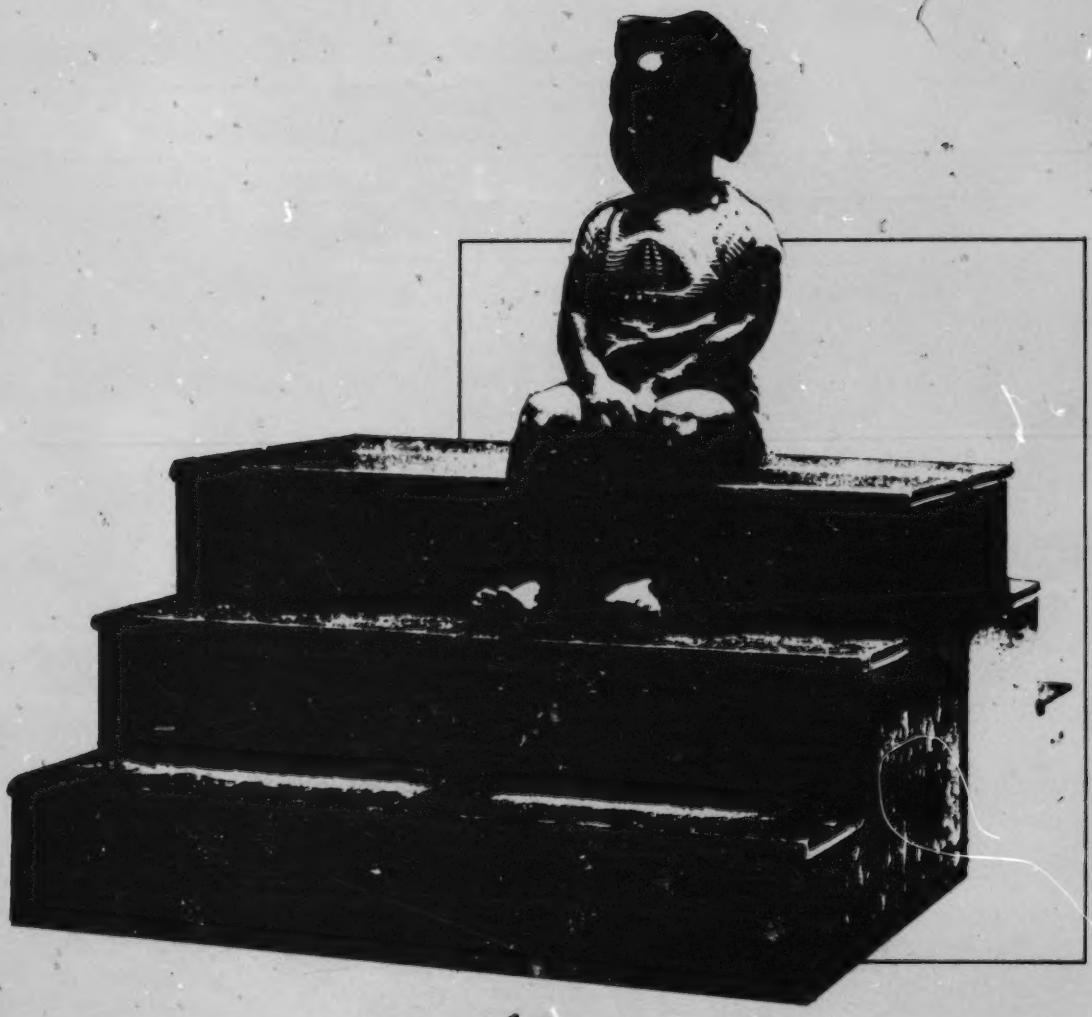
* This section was written by Professor David J. Parsons of the School of Architecture and Urban Planning, University of Wisconsin-Milwaukee, who is the originator of the SPIN system.

to appropriate terms under each broad heading. The vocabulary and coding form used in the Environments for Play and Child Care Project are shown in an above illustration. Also, the author(s), title, date, and place of publication were recorded. The indexed terms are then input into a computer file and serve as the raw material for creating subject listings and bibliographies.

The third step was the design and production of classified subject listings of project information. An assumption in SPIN is that most information-retrieval needs can be anticipated in advance and can therefore be embodied in a classified hierarchical listing of the entire collection. This classified listing avoids relatively costly computer runs for individual key-word searches. Any specific need for new information which is not already embodied in an available list leads to the production and output of a new list. A variety of formats and classifications can be produced. It is at the level of list design that users' different points of view are reflected.

A sample classified subject listing and a sample of a small portion of the bibliography are appended after the abstracts in this document.

ABSTRACTS



THEORIES OF CHILD CARE AND PLAY

CHILDREN AND SPACE

POLLY HILL

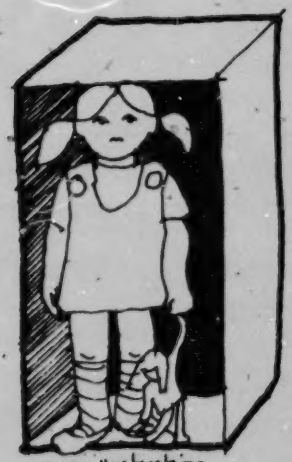
Ottawa: Central Mortgage and Housing Corporation, n.d. Unp., illus.

PURPOSE

These four articles form a progressive discussion of how children interact with the space around them, and how to plan environments which children can develop themselves.

DESCRIPTION

Hill gives expert opinion based on her career as a consultant in children's activities and in educational and play facilities. She cites numerous examples from Canada, the U.S., and Europe in support of her opinions.



cover illustration

While including many specific recommendations concerning indoor and outdoor space and equipment for preschool and school-age children, the major assumption underlying all recommendations is that children must be able to manipulate and alter their various environments as their needs change. By contrasting photographs of children in static environments and in interactable environments, the meaning of this assumption becomes beautifully clear.

Various options in programs to allow child-chosen environmental change in indoor and outdoor spaces are discussed and adult roles are defined.

CONCLUSIONS

Children should be able to interact with and change their environment as needed. Choosing equipment, materials, space, and an educational program philosophy to enhance this process is a necessity.

COMMENTS

While these articles together form a lucid combination of expert opinion and generalized design recommendations concerning children and their interaction with their environment, they should be regarded as an introduction to the subject -- a delicious first taste -- only. They are written in a popular style and liberally illustrated with photographs.

CREATIVE PLAY FOR THE DEVELOPING CHILD

CLARE CHERRY

Early Lifehood Education Through Play

Belmont, Ca.: Fearon, 1976. Pp. 260; illus., photos, bibliog., index.

PURPOSE

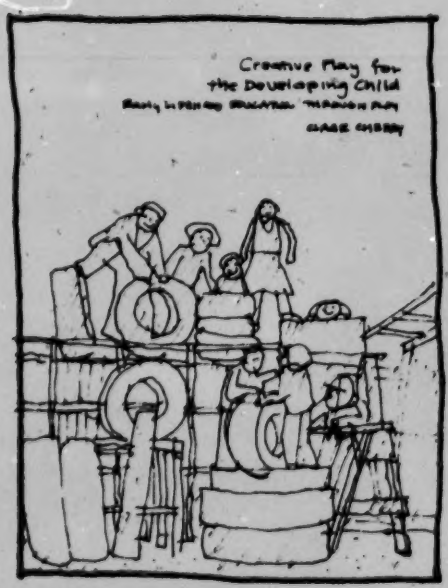
This book illuminates the value of play in relation to child development during the first few years of life. It stresses the importance of play/learning attitudes and environments as opposed to the more formalized work/teaching concepts of traditional educational systems.

PROCEDURE

The book is based on an overview of research with which the author is acquainted, supplemented by her own theories developed over the years as a result of many kinds of experience. The result is a book focused on an eclectic curriculum that is wholly compatible with our present-day system of early childhood education.

DESCRIPTION

Cherry emphasizes the inner-world of the individual. She includes sections on philosophy of play, creating the play environment, and implementing the creative play approach. Cherry believes that play is the way children learn and prepare themselves for adulthood. She finds that children learn through the processing of sensory information. This information usually comes as a result of some kind of movement and usually results in another movement, voluntary or involuntary. In Cherry's words, "Play is a natural function, and the learning it leads to is achieved by the well-accepted process of 'doing' by a sequence of exploration, testing, and repetition" (p. 4).



cover

CONCLUSIONS

Cherry's creative play philosophy is based on the premise that the more children's emotions are involved, the more sensory information they receive and the more easily learning takes place. In implementing creative play ideas, Cherry gives very concrete suggestions on learning through gross-motor activities, fine-motor activities, rest and relaxation, construction experiences, natural sciences (plants and animals), physical sciences (magnets, cooking, etc.), letters and numbers, creative expression, dramatic play, and make-beleive.

COMMENTS

While not explicitly a design guide, Cherry's descriptions of developmentally-appropriate activities and equipment lead very naturally to design implications. This is a very thorough and useful book for designers interested in what children actually need to do in outdoor or indoor play spaces.

MOVING AND KNOWING

LYDIA A. GERHARDT

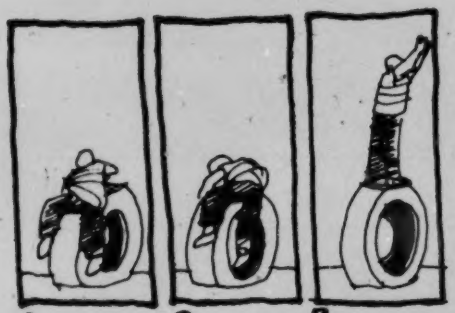
The Young Child Orients Himself in Space

Englewood Cliffs, N.J.: Prentice-Hall, 1973.
Pp. 202; illus., bibliog., index.

PURPOSE

This book presents a theoretical basis for understanding the relationship of body movement to human development, and relates this theory to children's concepts of spatial orientation.

FINDINGS



body movement in human development

Children's spatial perception is developed through understanding of the relationship of objects and their parts to other objects and to themselves. Gerhardt recommends developing a curriculum which addresses the child's perception of points of reference in space, balance in space, the "time of space," and directionality in space.

Sequential photographs and diagrams of children's body movements enable the reader to begin to recognize and analyze the complex relationships which exist between movement-posture and the development of spatial ideas.

RECOMMENDATIONS

Specific suggestions are made for ways teachers might arrange large-motor equipment, natural outdoor terrain, and surface patterns to focus on spatial ideas. Examples of use of creative arts such as dancing, drama, music, and art to develop an understanding of balance, size, shape, direction, area, and volume are described.

COMMENTS

It is possible for teachers, designers, and others to structure a range of experiences which will promote the child's internalization of spatial concepts. This book presents theoretical and practical information which provides an interdisciplinary approach to the role of body movement in the learning process and to implications for design.

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PLAY

CATHERINE GARVEY

Cambridge, Ma.: Harvard University Press, 1977. Pp. 133; illus., photos, bibliog., index.

PURPOSE

Garvey's purpose is to define play through classes of experience. She looks at "aspects of play, one by one, distinguishing them by the material or resource primarily involved" (p. 8). These materials or resources include motion, interaction, objects, language, and social materials. Also discussed is play with rules, ritualized play, and learning to play.

PROCEDURE

Garvey relies heavily on theories and published research done by others and on a study she conducted in which pairs of children were observed in a single setting. The procedures were designed to provide examples of spontaneous behavior with as few constraints as possible. "The principal objective of the study was a detailed analysis of children's activities in what was, potentially at least, a social situation" (p. 9).

FINDINGS

Garvey helps to define play by listing aspects of play agreed upon by most play researchers:

- play is pleasurable, enjoyable
- play has no extrinsic goals
- play is spontaneous and voluntary
- play involves some active engagement on the part of the player
- play has certain systematic relations to what is not play

Garvey, based on the results of her own study, asserts that the origins of play are social

in nature. Play with others, she feels, is a primary behavior whereas solitary play and fantasy are secondary, derived ways of playing.

Chapters include play with motion, play with objects, play with language, play with social materials, play with rules, ritualized play, and learning to play.

CONCLUSIONS

Garvey concludes "that most aspects of play will emerge spontaneously *if the very young child experiences some basic model of non-literal treatment of resources*" (p. 123), (e.g., tickling instead of purposeful handling for bathing or changing).

COMMENTS

This book is a very readable and well-organized examination of play. Garvey integrates other prevalent theories with her own in this excellent introduction to children's play.

SERVING PRESCHOOL CHILDREN

DONALD J. COHEN

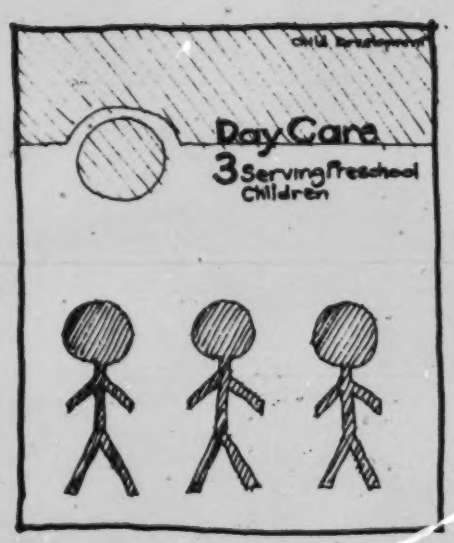
Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Human Development, DHEW Publication No. OHD 76-31057. Pp. 164; photos, bibliog.

PURPOSE

The purpose of this publication is to present an overview of the day-care field in the form of a basic state-of-the-art guidebook. Part of a seven-part series commissioned by the Office of Human Development, the goal of the author of this volume has been to provide a foundation for general discussion of day-care for pre-school age children, to synthesize available knowledge and experience, and to offer practical information for those actively involved in day-care.

DESCRIPTION

There are different types of child-care programs which range from make-shift babysitting to comprehensive community-based programs. Cohen believes that day-care programs which offer positive support to the developing child promote physical health, provide meaningful social experiences, create learning opportunities, and support the child's family life.



Cover

After evaluating various programs and facilities and their contribution to the major aspects of development, presented are guidelines for establishing and operating day-care centers.

Criteria are offered for site selection, staffing, operating procedures, and health and and social provisions. Other chapters discuss the developmental growth of young children, curriculum areas, and the related design implications for indoor and outdoor play and learning environments.

CONCLUSIONS

Cohen suggests that day-care promotes development because it supports the child's physical health, provides meaningful social experiences, creates opportunities for learning by making materials and situations available to the child, and, finally, supports family life by involving parents in the care of their children.

COMMENTS

This handbook describes methods for anticipating and resolving issues which are likely to be encountered in the planning and initial operating stages of a day-care program. A wide range of information is presented to add flexibility to the decision-making process.

Other books in the series cover infant care, staff developemnt, curriculum planning, and administration.

ALTERNATIVE LEARNING ENVIRONMENTS

GARY J. COATES

Stroudsburg, Pa.: Dowden, Hutchinson & Ross, 1974. Pp. 387; illus., photos, bibliog., index.

PURPOSE

Coates has gathered together a number of articles by experts in the child-environment and education field to form a volume with many points of view on children's learning environments.

PROCEDURE

The articles include some which are based on empirical research, some on personal experience and expertise, and some on case studies of existing experimental facilities. Many are reprinted from other sources.

DESCRIPTION

A few of the articles which are especially pertinent to young children are:

- "A Room Planned by Children," by Luther W. Pfluger and Jessie M. Zola.

  At the University of Wisconsin-Milwaukee Day Care Center, preschool children were given the chance to plan the room as they wanted it. An important discovery is that they preferred open space without tables or other obstructions to free movement.

- "Adventure Playgrounds," by Clare C. Cooper (Marcus).

  In what is probably the best article on adventure playgrounds published in the United States, Cooper gives the history of adventure play, recounts many experiences from specific European playgrounds, discusses what research is available, advantages and disadvantages, necessary elements, and the future of adventure play in the U.S.

ALTERNATIVE LEARNING ENVIRONMENTS

Logo for the book

- "Open Space Learning Place," by Robin Moore.

  Moore cites three outdoor environments he has been instrumental in developing--one in Boston and two in California--in two of which he has created natural, ecologically sound spaces for children in urban or suburban areas. These areas are superb combined play-learning spaces for environmental education. He describes the qualities which are necessary to successfully naturalize areas for children.

- "Planning Environments for Young Children: Physical Space," by Sybil Kritchevsky, Elizabeth Prescott, and Lee Walling.

  A classic paper based on a three-year study to increase knowledge about programs for children in day-care centers, the relationship between space, program, and behavior became increasingly clear to the researchers. Findings include that "good space" makes it easy for goal-related behavior to occur and does not force behavior which is contrary to goals, or force the selection of otherwise unimportant or inappropriate goals as a means of coping with space-induced negative behavior.

- "The Child in the Physical Environment: a a Design Problem," by Anne-Marie Pollowy.

  Pollowy attempts "to outline an approach for relating design and the social sciences." She uses "activity patterns" as the common denominator for stating developmental and environmental research data and then suggests that a "performance approach" will provide a vehicle for interpreting activity patterns for design.

COMMENTS

Many other articles in this compilation will prove useful. To get short articles by many of the major writers in the field in one source, this is an excellent purchase choice.

ASSESSMENT OF CHILD REARING ENVIRONMENTS

ELIZABETH PRESCOTT, ELIZABETH JONES, SYBIL KRITCHEVSKY, CYNTHIA MILICH, & EDE HASELHOEF

An Ecological Approach
Part I: Who Thrives in Group Day Care?
Part II: An Environmental Inventory

Pasadena, Ca.: Pacific Oaks College, 1975.
Part I: Pp. 80; Part II: Pp. 32; bibliog.

PURPOSE

This intensive ecological psychology study was based on the following assumptions:

- that there are marked differences in children's individual style of approach to a given milieu stemming from temperament and prior experience
- that socialization can be described as the process of learning a wide variety of appropriate behavior-milieu synomorphs
- that choice-making within the environment provides the opportunity for developing increasingly differentiated ego sets

The study was designed to identify children who, while normal, were not considered to be thriving in group child-care, as judged by the staff responsible for their well-being. The researchers felt that these children were most apt to be at risk in group day care, and that the reasons for their poor adaptation would help approach the basic problem of identifying critical dimensions in environments.

PROCEDURE

Seven open-plan and seven closed-plan child-care centers were chosen for observation. Within each center, six children were selected: two who were described as really thriving; two who were considered average; and two who were judged as not yet thriving as hoped. Observations of the subjects were made in the centers by trained observers using the Day Care Environmental Inventory developed by Prescott, Kritchevsky, and Jones in 1967.

FINDINGS

Children labeled as thrivers got along well with other children, enjoyed activities offered by the teacher, and were able to negotiate and make demands. Average children got along with other children, did not require much attention, but negotiated and made demands less often than thrivers. Non-thrivers received negative teacher-children response, did not get along well with other children, did not negotiate effectively, and were often uncoordinated and poor at small muscle activities.

Closed-plan centers appeared to be characterized by a prevalence of play equipment which gave positive feedback about correct and incorrect responses, large numbers of activities which permitted only limited mobility, and factors such as lack of equipment which limited a child's functioning.

Open-plan centers were characterized by frequent free-choice opportunities where children chose their own activities. In addition, there were relatively large amounts of quiet intensive activity segments and high amounts of play equipment with many alternatives.

CONCLUSION

The authors' definition of a good fit for an individual child in a child-care program concludes that adults in the center and the activities which they provide enable children to experience themselves as competent and likeable and provide them with opportunities for enthusiastic and sustained involvement.

COMMENTS

This is one of a series of excellect empirical studies by Elizabeth Prescott on the effects of child-care options -- and the effects of different organizations of the physical environment -- on development.

Other studies in the series have pointed out, among other things, the following:

- closed-plan child-care centers lead to little physical contact between children and adults
- open-plan centers lead to many opportunities for self-initiated activities

- family-group day-care homes show the most support for social and emotional development

- home-care plus part-day nursery school develops the most intellectual awareness among children.

Other studies by the same group have shown that the overall developmental quality of child-care environments declines in centers with more than about 60 children at a time.

Taken together, this work by Prescott and her colleagues is one of the most sustained and rigorous bodies of research on child-care environments.

Also by the same authors:

Kritchevsky, S. and Prescott, E., with Walling, L. *Physical Space: Planning Environments for Young Children.* Washington, D.C.: National Association for the Education of Young Children, 1969.

Prescott, E. A comparison of three types of day care and nursery school-home care. Paper presented at the Society for Research in Child Development Meeting, Philadelphia, March-April 1973. (Reviewed in *Today's Child,* September 1973, *21(6)*, 6.)

Prescott, E. Approaches to quality in early childhood programs. *Childhood Education,* 1974, 125-131.

Prescott, E. and David, T. G. *Concept Paper on the Effects of the Physical Environment on Day Care.* Pasadena, Ca.: Unpublished MS., Pacific Oaks College, 1976. (Abstracted herein)

Prescott, E. and Jones, E. with Kritchevsky, S. *Day Care as a Child-Rearing Environment.* Washington, D.C.: National Association for the Education of Young Children, 1972.

CHILDHOOD OUTDOORS

ROBIN MOORE & DONALD YOUNG

Towards a Social Ecology of the Landscape

In I. Altman and J. Wohwill (Eds.) *Children and the Environment*. New York: Plenum, 1978 (in press).

PURPOSE

This review paper is an examination of empirical research on children and open spaces, and a presentation of these findings within a behavior-environment ecological framework to support more rational decision-making.

PROCEDURE

Moore and Young reviewed over 50 studies. Of these, 34 contained "useful empirical data relating to non-supervised outdoor settings." Then items were classified according to spatial scale and behavioral realm. Scale ranged from residential district scale to individual play area scale. Behavioral realm included physiographic factors, physiological-psychological factors, and socio-cultural factors.

FINDINGS

Topics include:

- the comparative significance of indoors and outdoors to children
- outdoor behavior-environment concepts of territorial range, place, and connecting pathways, and the interaction of these three

Among the findings:

- children's outdoor relationships are culturally dependent
- universal needs of children are in urgent need of clearer articulation and integration into public decision-making
- children must be more directly involved in research and decision-making as co-workers

- age and extent of home range are correlated
- the role and variable use of the physical environment in sex differentiation emerges as a major issue for further research

COMMENTS

Emerging from the cautious, thorough, academic prose is a very humane approach to understanding child-environment interactions and to further research in child play. The use of children as co-workers and authorities is key to a new type of research advocated.

Also by the first author:

Moore, R.C. The place of adventure play in urban planning for leisure. In International Playground Association. *Adventure Playgrounds and Children's Creativity*. Sheffield, England: Author, 1975. Pp. 16-25.

Moore, R.C. and Wochiler, A. The assessment of a "redeveloped" school yard based on drawings make by child users. In D.H. Carson (Gen. Ed.) *Man-Environment Interactions*, Part 12. Stroudsburg, PA: Dowden, Hutchinson & Ross, 1975. Pp. 107-119.

Moore, R.C. Open space learning place. *New School of Education Journal*, 1973, *2(4)* and *3(1)*. (Reprinted; see abstract of *Alternative Learning Environments.)*

CHILDREN AT PLAY

DEPARTMENT OF THE ENVIRONMENT

London: Her Majesty's Stationery Office, 1973. Pp. 110; illus., photos, bibliog.

PURPOSE

The purpose of this book was to systematically and empirically research children's play in 16 different housing areas and to make recommendations based on the findings for improving play facilities in new and remodeled housing areas.

PROCEDURE

The study was based on over 50,000 observations of children's outdoor activities on modern housing areas, older areas scheduled for redevelopment, an adventure playground, and a recreation ground before, during, and after a supervised play scheme came into operation.

cover

Generally, the observations were carried out for 12 hours a day during the summer school holidays when outdoor play was assumed to be at its peak. Each area was observed by trained observers for four days -- two weekdays, a Saturday, and a Sunday.

Data were subjected to tests of significance, so the word "significant" used in the text refers to statistically meaningful findings, not just casual observation.

FINDINGS

Among interesting findings were the following:

- children in low-rise housing use the public outdoor spaces much more than those in high-rise housing
- children play in planned play areas a very small proportion of their time
- children play more often and for longer periods of time in supervised play areas
- roads are very popular for play if they are near housing

- children use walls, railings, garage roofs, trees, etc., regularly for play

RECOMMENDATIONS

A list of 14 design recommendations are derived from the research. Some of these are:

- all authorities should consider whether there is sufficient provision for supervised play in their community
- the whole housing area should be planned with children in mind
- everything in the area should either be sturdy and safe for children, or be protected from children (e.g., railings, walls, etc.)
- improvements should be looked at street by street

COMMENTS

The amount of data collected is impressive. Especially important is the finding that children in housing areas use designated traditional and contemporary playgrounds very infrequently and that they use supervised and "left-over" play areas significantly more and for longer durations of time. Allowing for slight cultural differences between English and American children, this would seem likely to have important planning and design implications in all countries.

Because it lacks an index, this publication is difficult to use for reference.

Illustration of a typical chart from the report

123 percentage of mothers finding play a problem, by building types

Building types	Number of estates	%	no.
low density houses	11	56	161
high density houses	11	61	976
Deck access	2	61	126
Balcony access w/ lifts	4	72	161
Walk-up blocks	6	72	81
Corridor blocks	3	73	92
Point blocks	7	81	197

ECOLOGICAL PSYCHOLOGY AND CHILDREN

PAUL V. GUMP

Reprinted from E. M. Hetherington (Ed.)
Review of Child Development Research, Vol. 5, Chapter 2. Chicago: University of Chigago Press, 1975. Pp. 51; bibliog.

PURPOSE

The intent of this monograph is to briefly present basic ecological concepts and methods developed by ecological psychologists and other social scientists which relate to the study of children's environments. The sections review research on children in community housing, child-care centers, nursery schools, and public school environments. The last section reflects on a range of ideas from current child-related research.

PROCEDURE

In the late 1940s, Roger Barker and Herbert Wright investigated children's lives in a small town. Their research, which focused on the study of children in "real life" settings, attempted to avoid investigator input to either the subject's environment or behavior. In narrative records, Barker recorded descriptions of free-running behavioral streams which he called behavior episodes. Later research by Barker and others, which used the behavior setting method to measure the behavioral opportunities of children's environments, demonstrated a range of physical environmental parts which strongly affect the sociality and the activity of child inhabitants.

FINDINGS

A number of important child-related issues are identified in this monograph. A significant finding in a number of studies demonstrates that improvement of interior dwelling arrangements and facilities will not by itself solve the problem of secure and active living in the community because children are very much affected by conditions outside of the dwelling area.

The great majority of families with children living in high-rise apartments fear for the

safety of their children, and smaller percentages of children from high-rise apartments play outdoors than from low-rise apartments. In terms of the quality of public outdoor space, several studies summarized in this monograph indicate that community open spaces in the "center of the action" are highly used by children. Another finding is that the greatest diversity of activities occurs in ambiguous places, places without built-in cues for specialized use, such as lanes, streets, vacant lots, wooded areas, and other such "left-over" places.

With regard to environments for preschools, studies (especially Elizabeth Prescott's; see *Concept Paper on the Role of the Physical Environment: Day Care,* abstracted herein) are reviewed which indicate, for just one example, that in closed-plan child-care centers, considerable time is used in transitions from room to room. In such centers there is greater adult pressure and less spontaneous child-initiated activity than in open-plan centers. Open-plan centers, in turn, had more transition time and less free exploration than family-group child care in homelike settings.

COMMENTS

According to Gump, there is widening recognition that environmental variables such as housing projects, child-care programs, and classroom arrangements have a strong impact on children. This terse monograph systematically reviews many of them, especially in the early childhood age ranges, and opens the door to additional needed research.

THE EFFECTS OF THE PHYSICAL ENVIRONMENT ON DAY CARE

ELIZABETH PRESCOTT & THOMAS G. DAVID

Pasadena, Ca.: Unpublished MS, Pacific Oaks College, 1976. Pp. 153; bibliog.

PURPOSE

The purpose of this position paper is to describe dimensions of the physical environment which affect the well-being of infants, preschool, and school age children in center-based or family day care. In addition, the paper discusses current practices and recommendations in the early childhood education and day care field, and examines evidence concerning possible effects of these practices. Finally, the usefulness of Federal Interagency Day Care Regulations as a means to control the physical environment in child care is considered and slightly revised recommendations are made.

PROCEDURE

Prescott and David identify and analyze particular design features as well as "places" which are, or should be, part of a day-care environment. Related research and professional viewpoints are presented which strengthen or clarify each issue. The study is organized into sections which consider features of indoor space, outdoor areas, play equipment, and organizational and programmatic questions. The final section looks at Federal Interagency Day Care Regulations and recommendations which have been made by professional organizations to see what their effects on day care environments have been.

FINDINGS

Among the many interesting, well-substantiated, and immediately useful recommendations are the following:

- centers should be located in the child's own neighborhood for the benefit of both the child and parents

- child-care centers which serve 60 children or less are highly desirable -- indeed, that the quality of developmental "care" drops in larger centers

Within child-care centers, the study suggests that furnishings must be flexible, safe, and responsive to both children's and adults' needs. Good programs are held together by "good space" where activities can occur and by the provision of supplies and equipment to that activity.

Prescott and David stress that environmental design must not be "independent of the vision which caregivers have of the experiences they want for children." There should be, as Barker (see Gump, *Ecological Psychology and Children,*) and Alexander (see *A Pattern Language*) have observed, an "essential fittingness" between the environment and the behavior of its inhabitants.

COMMENTS

To corroborate each recommendation, Prescott and David present a review of related empirical research findings, expert opinion, and pertinent Federal and State regulations. One of the most succinct, broad-reaching, and empirically-based sources available, this informative study provides a comprehensive basis for making design and planning decisions for child-care programs and facilities. Unfortunately at the present time an unpublished manuscript, it should appear soon as a monograph.

Also by the same authors:

David, T. G. and Wright, B. D. (Eds.) *Learning Environments*. Chicago: University of Chicago Press, 1974.

Prescott, E. and Jones, E. with Kritchevsky, S. *Day Care as a Child-Rearing Environment*. Washington, D.C.: National Association for the Education of Young Children, 1972.

Prescott, E. with Jones, E., Kritchevsky, S., Milich, C. and Haselhoef, E. *Assessment of Child Rearing Environments: An Ecological Approach*. Part I: *Who Thrives in Group Day Care?* Part II: *An Environmental Inventory*. Pasadena, Ca.: Pacific Oaks College, 1975. (abstracted herein)

THE GENESIS OF LANDSCAPING

ROGER HART

Two Years of Discovery in a Vermont Town

Landscape Architecture, October 1974, *65(5)*, 356-363.

PURPOSE

During a two-year period, Roger Hart's goal was to describe the landscape of the town and environs of a small Vermont town as it exists for all children under 12 living there, that is, their landscape as explored, used, known, and experienced.

PROCEDURE

Hart recorded, mapped, and analyzed the children's activities for two years. He was eventually able to see and join with children in exploring their "secret" environment -- the places they didn't even talk about to parents.

FINDINGS

Among many findings, Hart found:

- children, expecially young children, stay very close to home to play
- children actively and frequently change or manipulate their outdoor environment
- it is the process of building a play area (e.g., a "play" house in a bush), rather than the finished product, which is important to children
- children have a variety of play needs and consequently need a wide variety of play choices
- children learn mapping through manipulation of the environment (e.g., building a town with rocks, twigs, and dirt)
- children develop more creativity when play is latent in materials (sand, water, dirt, trees) than when play equipment is a *fait accompli* (jungle gyms, slides, swingsets)

CONCLUSIONS

Hart says, "The most important principle to remember is that children know best where, and with what, to play. Concerned environmental planners and designers should maximize children's access to a wide range of types of play places . . ." He recommends the "creation or preservation of 'mini lands' ideally at the city-block scale, with some of the qualities so important to the children of Wilmington: water, trees, bushes, good dirt, discarded objects, and varied topography with slopes."

COMMENTS

Fascinating and sensitive research combined with lucid prose make this an excellent choice for after-dinner reading for the designer. When Hart's book is available, it should be required reading for all outdoor play area designers.

Also by the same author:

Hart, R., *Children's Experience of Place: A Developmental Study*. New York: Irvington Publishers (in press).

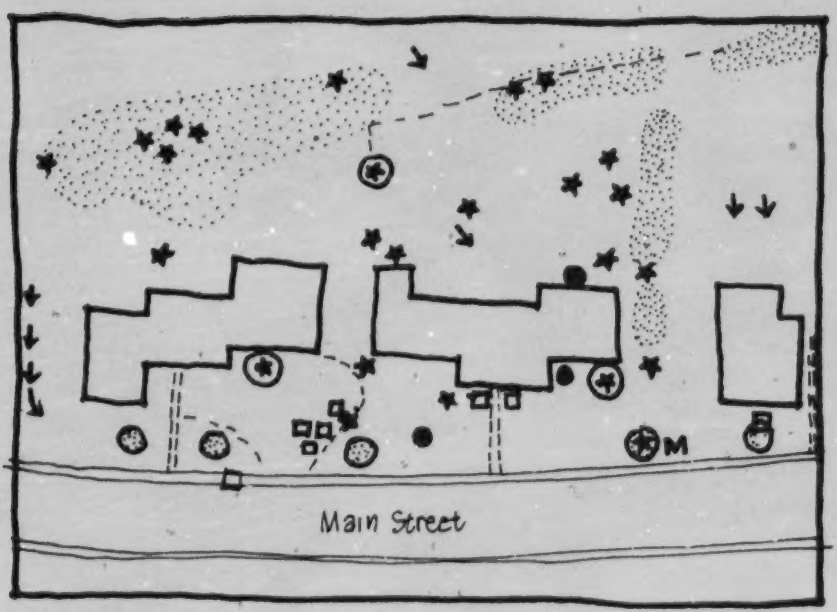


Illustration of location of children's activities from the article

Key:
- ★ Buildings - trees, bushes, grass, lumber
- ● □ Snow Buildings
- □ Dirt Play Spaces
- ↘ Snow Jump or Banked Turn
- Mature Trees
- M The maple tree used for tree forts, etc

LEARNING ENVIRONMENTS

THOMAS G. DAVID & BENJAMIN D. WRIGHT

Special Issue of *School Review*, August 1974, (Whole No. 4). Chicago: University of Chicago Press, 1974. Pp. 233; photos, bibliog., index.

PURPOSE

This special issue of *School Review* focuses on physical environments for learning. David notes that while none of the authors suggest that the manner in which the built environment is structured is more important for learning than social or interpersonal variables, they do maintain that educators have tended to overlook its influence on the learning process and on the users.

DESCRIPTION

Among the contributors and papers are the following:

photo from book showing children's sensitivity to and exploration of space.

- "The Physical Setting and Open Education," by Etta Proshansky and Maxine Wolfe.

  This chapter describes how the arrangement of physical space in an open education setting can facilitate the accomplishment of the teacher's instructional goals. They stress that the process of planning is the physical realization of theoretical assumptions about learning and offer concrete examples to support their thesis.

- "Operating Environments in Schools of Open and Traditional Design," by Paul V. Gump.

  Gump proposes a set of concepts and methods for the measurement of educational environments. He compares the children's activity patterns in open-plan and closed-plan schools.

- "Anarchy Zone: Kids' Needs and School Yards," by Robin Moore.

  This paper discusses the outdoor environment of the school -- the school yard and its often unexplored possibilities for learning. Two projects are described

where children were given a voice in what they would like to have on their school yards and the results of their choices (which differed dramatically from the original barren blacktop).

- "The Exceptional Environment: Strategies for Design," by Mayer Spivak.

  Special groups of children also have specific environmental needs. Spivak addresses himself to the problem of designing effective environments for exceptional children. He develops essential "polar paradigms" for the observation of children's behavior in relation to their physical setting.

- "A Child's Exploration of Space," by Paul Curtis and Roger Smith.

  They report on their own professional development as teachers and designers and discuss the process of translating educational ideas into physical form, and, importantly, their work with the teachers who will use the spaces they have designed.

- "Environmental Literacy," by Thomas G. David.

  How students and teachers move beyond awareness to active modification of existing environments to fit their own needs is David's subject. He proposes that schools should serve as laboratories for environmental experimentation and that "environmental literacy" should be part of the curriculum.

CONCLUSIONS

The authors and editors doubt whether our conception of the role of the physical environment in education has kept pace with our changing ideas about learning. New ways for incorporating user requirements and input into the design of learning environments are needed.

Also by the first editor:

Prescott, E. and David, T.G., "Concept Paper on the Role of the Physical Environment in Day Care." Pasadena, Ca.: Unpublished MS., Pacific Oaks College, 1975.

NATIONAL DAY CARE STUDY

JEFFREY TRAVERS & RICHARD R. RUOPP, WITH OTHERS

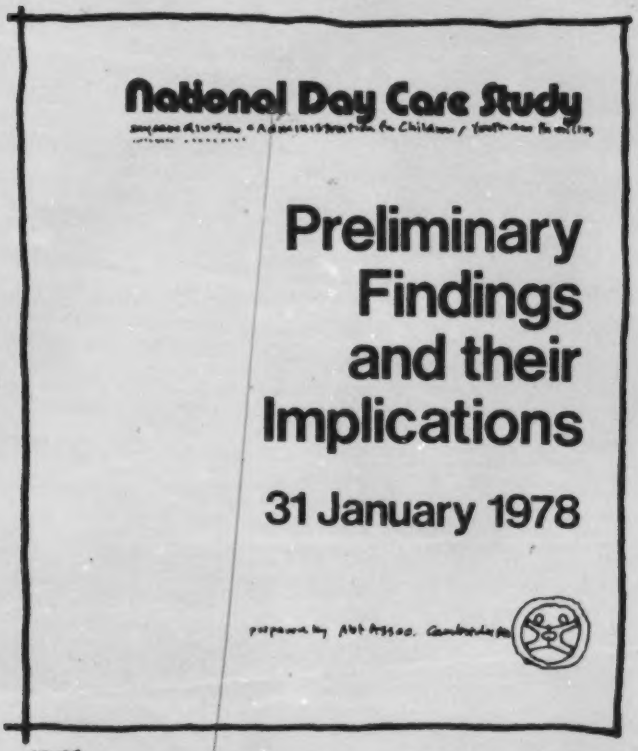
Preliminary Findings and their Implications

Cambridge, Ma.: ABT Associates, 1978.
Pp. 25.

PURPOSE

This report contains preliminary findings based on data from Phases II and III of the National Day Care Center Study conducted by the authors at Abt Associates for the U.S. Department of Health, Education, and Welfare.

The National Day Care Study was a four-year study of center-based preschool day care. The major objectives were to determine the impact of variations in staff-child ratio, number of caregivers, group size, and staff qualifications on both the development of preschool children and the costs of center care. In addition, the study explored the impact of other center characteristics (e.g., educational program and physical environment) on the quality and cost of day care.



cover

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PROCEDURE

As of January 1978, 1800 children were observed and tested, 1100 parents were interviewed, caregivers in 120 classroom groups were observed and interviewed, and program and cost data from 57 centers was gathered. A small substudy, the Infant Day Care Study, focused on group care for children under three.

FINDINGS

- Different centers have different affects on children. The quality of the human environment in day care varies significantly from center to center.
- Small groups work best. The size of the group in which the preschool child spends day care hours makes the most difference.
- Staff specialization in child-related fields also makes a difference.
- For preschoolers, minor variations in staff-child ratio have less effect than group size.
- Costs are not necessarily affected significantly by group size.
- Some determinants of quality in center care for infants are different from those for preschool children.
- Centers that receive some or all of their income from the federal government are different from centers that rely on parent fees.
- Racial and economic segregation is not more prevalent in federally subsidized centers than in parent-fee centers.
- Almost two-thirds of the federally subsidized centers have sufficient classroom staff to comply with federal ratio requirements.

CONCLUSIONS

To be effective, regulations should specify configurations of children and caregivers, with minimum qualifications defined for at least one caregiver per group.

Although staff-child ratio regulations have been the focus of most public attention and controversy, the clear findings from this study

on the importance of group size in preschool classrooms suggest a shift in regulatory emphasis toward this more easily understood and measured factor.

Even in effective centers, group sizes and staff-child ratios vary by time of day, type of activity, season of the year, and often by children's ages. Therefore, while the standards themselves must be specific, regulatory codes and monitoring practices should be designed to take this dynamic aspect of center care into account.

Because no major differences in effects from site to site have emerged so far, the study offers no evidence that the key Federal Interagency Day-Care Requirements should not be included in a single set of nationally-applicable standards.

SUMMARY

Although some of the study's variables and findings do not seem to be directly related to design decisions, some findings should go a long way to determine basic issues at various levels of the master planning process and some during the overall design of the basic configuration of a child-care center. A clear example is the finding that small group size (e.g., groups of 12-15, or fewer, children) is one of the more important factors in providing quality child care.

PLAYGROUNDS: FOR WHOM?

MARILYN ROTHENBERG, D. GEOFFREY HAYWARD, & ROBERT R. BEASLEY,

In D. H. Carson (Gen. Ed.), *Man-Environment Interactions*, Part 12. Milwaukee: School of Architecture and Urban Planning, University of Wisconsin-Milwaukee, 1975. Pp. 121-130. Reprinted, Stroudsburg, Pa.: Dowden, Hutchinson & Ross, 1975.

PURPOSE

The intent of this study was to gain an understanding of how and why playgrounds are used by children.

PROCEDURE

Three sites were selected, each representing a prototype of a traditional, a contemporary, and an adventure playground. Behavioral mapping was used to provide a time sampling of ages, sexes, activities, and sizes of groups of users within each playground. The behavior-setting technique provided records of all activities of randomly selected children during their playground visits. Interviews with school-aged children provided information concerning children's choices and uses of playgrounds.

types of playgrounds observed in the study

FINDINGS

Distinct patterns of playground use were evident at the three settings in terms of composition of users, major activity modes, and neighborhood/non-neighborhood themes. There was a distinct proprietary interest shown by parents and their children in the contemporary playground. Child users of adventure playgrounds developed a strong sense of place as they worked out their problems and mutual goals. Neighborhood children used playgrounds differently than non-neighborhood children. The neighborhood users were more casual and exuded a sense of belonging whereas new visitors seemed overwhelmed by the novel environment and set out to try everything at once.

CONCLUSIONS

The study analyzes the variables to be considered in the planning of facilities for children's play. The authors conclude that a view towards expanding children's

options is needed to guide the decision-making and planning process for playgrounds.

For a more complete version of this study, see also:

Hayward, D. G., Rothenberg, M., and Beasley, R. R. Children's Play and Urban Playground Environments. *Environment and Behavior*, 1974, *6*, 131-168.

DESCRIPTIONS OF FACILITIES

CREATIVE PLAYGROUNDS AND RECREATION CENTERS

ALFRED LEDERMAN & ALFRED TRACHSEL

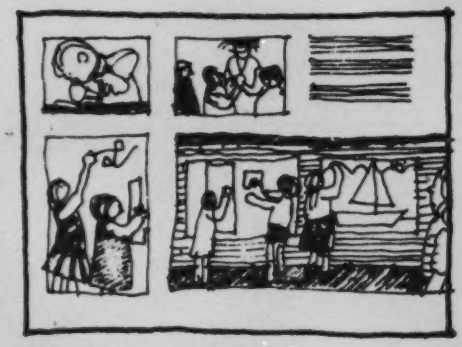
New York: Praeger, 1968 (2nd ed.). Pp. 176; illus., photos.

PURPOSE

The objectives of this book are to advocate that provisions for children's play be considered essential in all residential area planning to help set standards for these play areas, and to provide good examples from recent playgrounds in Europe and North America.

DESCRIPTION

The book includes descriptions and photographs on a wide range of playground types. Playgrounds surveyed in Europe and North American include adventure playgrounds, sculptural or contemporary playgrounds, natural areas, handicapped play areas, school playgrounds, miniature traffic playgrounds, children's street towns, playshelters, water playgrounds, and equipment-oriented playgrounds.



typical page

The text is in English and German, is very short, and consists for the most part of captions for the hundreds of black-and-white photographs of the various play areas. Most photographs show children actually using play areas and equipment. In the introductory chapters, the authors make general recommendations and the picture captions reinforce these recommendations.

RECOMMENDATIONS

Some of the recommendations include:

- half-finished components for play are more valuable than mechanical equipment (i.e. adventure play)
- playgrounds should encourage active, spontaneous, and creative play
- design should conform to age-group needs
- playgrounds should offer a variety of possibilities for play

- design should reflect the functions and movements of different games
- allow for "dreamy" play
- designers are advised to seek the cooperation of parents and neighbors for construction, equipment, and maintenance of playgrounds

More specific recommendations are made about sand, water, surfaces, playing fields, equipment, play shelters, and building and construction activity.

COMMENTS

The most valuable part of the book is the photographs and plans of various types of playgrounds, including several types -- like miniature traffic playgrounds, water playgrounds, and integrated family play/recreation areas -- virtually unknown to U.S. designers and readers. There are many good ideas, even though some play areas are mislabeled "adventure playgrounds."

This book is worth leafing through for inspiration, however the lack of an index or even a detailed table of contents is limiting.

DESIGN FOR PLAY

RICHARD DATTNER

Cambridge, Ma.: MIT Press, 1969. Pp. 144; illus., photos, bibliog.

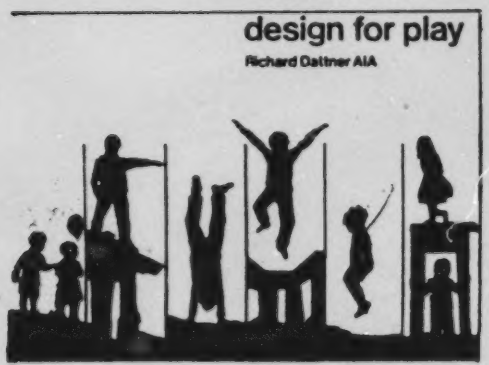
PURPOSE

Dattner examines play as being an activity without a setting. He then derives criteria for the outdoor setting from his own understanding of the activity.

PROCEDURE

While Dattner has not conducted research, his photographs show children in such varied locations and engaged in so many types of play, that it is evident he has observed children closely. His bibliography includes several references on child development, which seem to be the basis of the first three chapters -- "The Philosophy of Play," "The Social Function of Play," and "The Psychology of Play."

DESCRIPTION



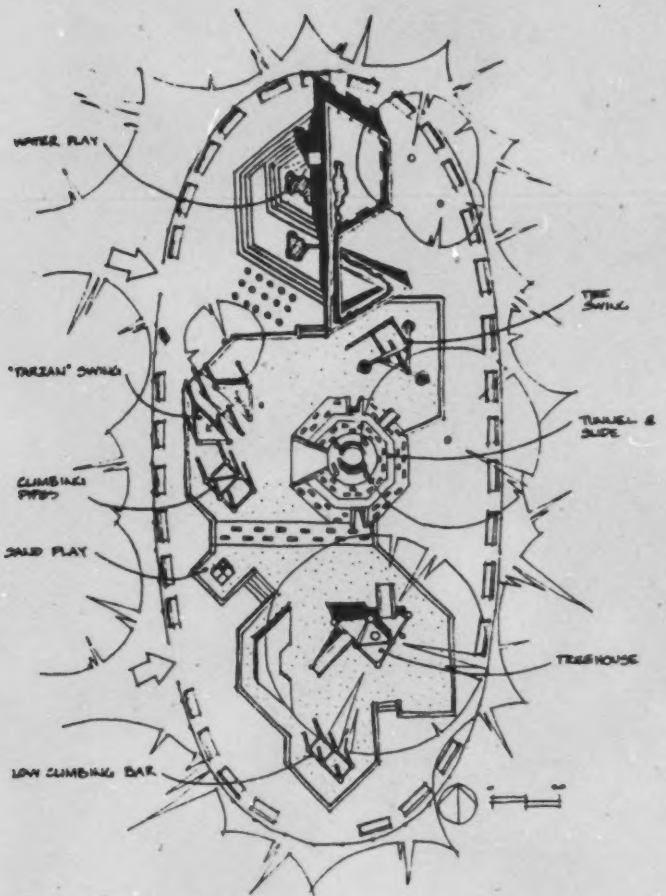
Dattner's main concerns have to do with what children want and need. The topics covered in the criteria include control of experience, graduated challenge, choice, exercise of fantasy, separation from adults, and expressive play. Dattner also writes about adventure play, children as designers, playgrounds for handicapped children, and more unusual play areas (e.g., rooftop play, "check-a-child," play barges, etc.), and shows examples from his own contemporary playgrounds in New York City.

CONCLUSIONS

The point Dattner wishes to make early and often is that what children need for play is usually very different from what adult administrators provide for them. Dattner tries to make clear that play areas must be designed specifically to meet children's needs, and not be ordered wholesale from play equipment catalog blurbs.

COMMENTS

Excellent photography makes this book a delightful experience. While the originally very controversial nature of the book may be blunted nine years later, it is still a valuable resource. Some errors mar it, however, for example, his incorrect use of the term "adventure play" and "adventure playgrounds" to refer to very rigid playgrounds with neither loose parts nor sensitive play leaders. One also wishes Dattner had troubled to document all of his sources more carefully, but those he used heavily are given within the text (e.g., Margaret Mead, Jean Piaget, etc.).



Adler playground · by richard dattner
central park
N.Y.C.

DOWN THE RABBIT HOLE

DAVID F. GIBSON

A Special Environment for Preschool Learning

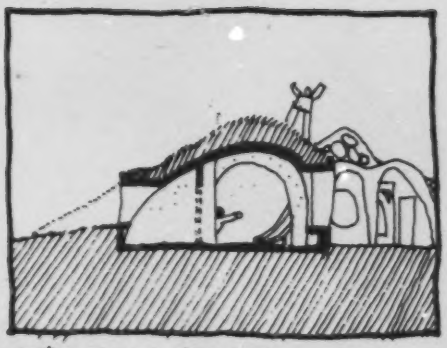
Landscape Architecture, May 1978, *68(3)*, 211-216.

PURPOSE

The feature article of this issue of *Landscape Architecture*, the author describes the Wildwood Preschool in Aspen, Colorado, designed by biologist-inventor-designer Robert Lewis. The school is set in a natural landform berm in the foothills of the Rocky Mountains, and the title of the article refers to the fact that children may enter through "pockets in the turf" resembling rabbit holes.

DESCRIPTION

Lewis' design, inspired by natural rock formations in Utah, includes two main rooms with ceilings which follow the rounded shape of the hill into which they are set, an arts room with natural fireplace and a nature room, both skylit. Small areas with sloping ceilings, again following the line of the hill, open from the main room. In the arts area the small learning centers have materials and equipment to develop the senses, while in the nature area they involve various world climatic conditions (i.e., rain forest, desert, ocean, etc.). The sixteen-acre site includes a beaver pond, woods, slopes, rock formations, wild flowers, wildlife, and other joys of nature which the children use extensively all year round.



section through the school

The building itself is easy on the land. Using its earth covering as natural insulation, the heating system is very efficient. Plumbing is also ecologically sound--two composting toilet systems are in operation.

CONCLUSIONS

The success of Wildwood has led Lewis to adapt his design for use in other settings, including showing how a Wildwood-type pre-school could operate in vacant lots or lofts in urban areas.

COMMENTS

nature room & nook

Lewis wishes to establish a base for environmental and ecological education, training children to respect and live in harmony with the natural environment wherever they may find it -- a very timely concept beautifully carried through. Designers should be very aware of the Wildwood example as they plan future early childhood environments.

The Wildwood School was designated one of thirteen international demonstration centers for the 1979-80 International Year of the Child sponsored by the United Nations. This is the best currently available description, though more are sure to follow.

ENVIRONMENTAL PLANNING FOR CHILDREN'S PLAY

ARVID BENGTSSON

New York: Praeger, 1970. Pp. 224; illus., photos, index.

PURPOSE

Using examples of various types of playgrounds from Europe and the U.S., Bengtsson makes general recommendations which all play-area planners should consider.

PROCEDURE

Arvid Bengtsson, Vice-President of the International Playground Association, has toured multitudes of playgrounds and has chosen 50 of them to use as examples for his recommendations. Bengtsson is also Parks Director of Gothenberg, Sweden, and has designed and built several large play areas himself. This book is based on his cumulative experience and examples included are several of his own designs.

DESCRIPTION

Bengtsson covers such subjects as micro-climate, differentiation of outdoor environment, renewal and redevelopment, components of the playground (e.g., fire, animals, sand play, water play, climbing apparatus, ropes, etc.).

The types of play areas he talks about include areas in single-family housing and multiple-dwelling areas, playgrounds for small children, comprehensive playgrounds, indoor playgrounds, and adventure playgrounds (see also Bengtsson, *Adventure Playgrounds,* 1974).

CONCLUSIONS

In the introduction, Bengtsson says, "We *do* more for the coming generation than ever before, but our 'doing' is more concerned with guiding them towards a safe income than giving them a full and worthwhile life. The fun and joy of living, which should last us through life, all too often dies in childhood." Bengtsson's book is intended to help designers reattain a play environment for children which is rich in experiences and full of "fun and joy."

COMMENTS

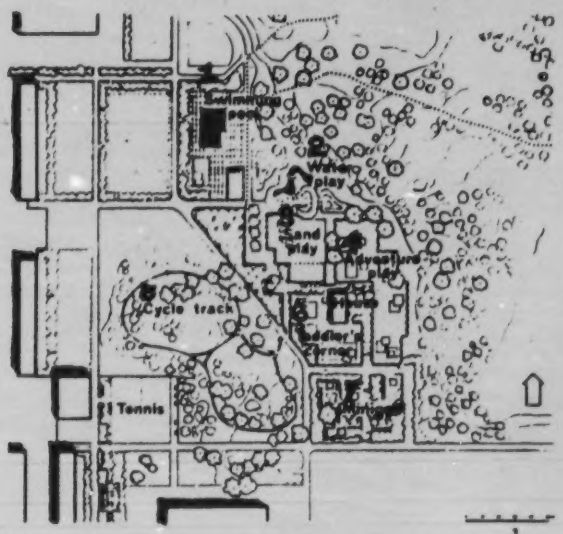
Very well written, with excellent illustrative photographs, this book should serve as an inspirational as well as instructive guide for designers. Rather than giving the actual "do's and don't's" for designing, Bengtsson gives many good ideas and examples in the hopes of stimulating the astute reader.

Three especially valuable features of this book are its wealth of European, especially Scandinavian examples; its introduction to North American readers of the notions of comprehensive playgrounds and play parks; and its emphasis on the overall planning necessary for children's outdoor activities, especially in housing and residential situations.

Also by the same author:

Bengtsson, A. (Ed.), *Adventure Playgrounds*, London: Crosby Lockwood, and New York: Praeger, 1972.

Stenby-Löppinge, Eskilstuna, Sweden



one of the many play-parks illustrated in the book

PLANNING FOR PLAY

LADY ALLEN OF HURTWOOD

Cambridge, Ma.: MIT Press, 1968. Pp. 140; illus., photos.

PURPOSE

Lady Allen, an English landscape architect who became one of the earliest and most respected advocates for children's play needs and adventure playgrounds worldwide, herein examines the state-of-the-art of children's play environments, makes recommendations, and selects specific playgrounds to highlight.

PROCEDURE

Because of her prominence in the field, Lady Allen received information, photographs, and plans from playgrounds all over the world (especially Europe and the U.S.). She was able to visit many of these play areas first hand; besides having the experience of several playgrounds she started herself. From this experience, she championed a variety of leading-edge recommendations which have already had a major worldwide impact, many having to do with adventure play and play for handicapped children.

FINDINGS

Lady Allen makes recommendations on play areas of various types including balconies and street-decks, playgrounds without leaders, nursery schools, play groups, one o'clock clubs, play parks, neighborhood playgrounds, hospital play areas, adventure play for handicapped, and other play areas for exceptional children.

A beginning section includes recommendations on certain overriding concerns, like seclusion and scale, ground-shaping, surfacing and texture, sand and water, planting and maintenance.

A long section is devoted exclusively to adventure play -- the leader, committee, site, rough land, animals, and gardens.

CONCLUSIONS

Lady Allen's major recommendation is that children's needs and available space should be examined and coordinated to produce the most useful and productive play areas for them. Though acknowledging the values of several of the different types of playgrounds, Lady Allen feels that adventure play complies with both considerations most admirably.

COMMENTS

A very persuasive and useful book, Lady Allen is so widely accepted as an authority and so widely quoted by other sources that her recommendations seem to carry extra weight. The extremely readable text with good photographs gives very practical help with many particulars unmentioned elsewhere. This book is a "must read" for all planners, designers, and community groups involved in children's play environments.

SCHOOL ZONE

ANNE P. TAYLOR & GEORGE VLASTOS

Learning Environments for Children

New York: Van Nostrand Reinhold, 1975.
Pp. 144; illus., photos, bibliog., index.

PURPOSE

This publication is intended to aid educators and architectural designers in creating an alternative environment with children which will enhance learning.

PROCEDURE

Taylor supervised art education student teachers in both rural and urban areas of Arizona. She saw little evidence of any creative and expressive activity from children in those classes. With George Vlastos, an architect who designs schools and outdoor areas for children, she studied the environments involved.

SCHOOL ZONE

logo for the book

Included in this book are sections on child-scale design, sensory experience (soft, geometric, color, sound, etc.), storage as a learning experience, furnishings, playground as an extention of the classroom, playground planning, and the design process.

RECOMMENDATIONS

The resulting recommendations which allow children to participate in design and help create their own environment focus on the following:

- providing a richness of form, color, texture, space
- using all three dimensions fully
- providing a multitude of sensory experiences in all areas of the child's environment
- including many types of child-manipulable items in the surroundings
- using scale sensitively to make space comfortable for both adults and children

- making a statement about educational philosophy with design (i.e., if a child can look down on or straight at an adult, the authoritarian adult image is lessened)

Plans for many prototype projects are included as examples (e.g., suspension bridge, sola solar greenhouse, etc.).

CONCLUSIONS

Taylor and Vlastos conclude that the more the children, teachers, and parents are invloved in design, the more dynamic, usable, and used the space will be. The architect's role in enhanced by a willingness to be open to participation by the users in the design process.

COMMENTS

Good photographs, fine graphics, and a clear writing style make this book especially appealing. The overall attitude toward design will be much more useful than the more specific design suggestions (e.g., a cable-spool rocking chair), clearly the authors' intention. If one involves users in design, as they suggest, specific ideas will almost always be changed.

typical cartoon illustration in the book

SOME EUROPEAN NURSERY SCHOOLS AND PLAYGROUNDS

ROBERT C. UTZINGER

Early Childhood Facilities Monograph ECF/2.

Ann Arbor: University of Michigan, Architectural Research Laboratory, 1970. Pp. 79; illus., photos, bibliog.

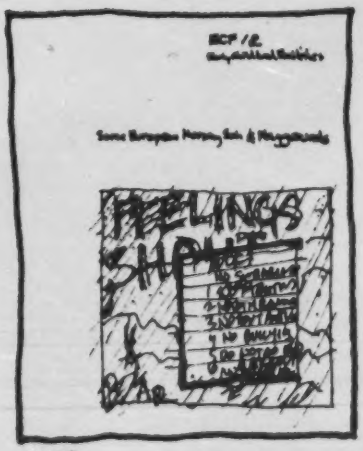
PURPOSE

The Early Childhood Facilities project sought to determine the environmental conditions and facilities which can be considered most desirable for the care and development of groups of children from birth to the age of six.

This monograph is the result of a European study tour by Utzinger during the summer of 1969. The 17 day care centers and outdoor play areas presented are in London, Copenhagen, Stockholm, Uppsala, and Zurich. There are numerous photographs and drawings of each facility.

DESCRIPTION

The 17 facilities presented share some common features -- among them are a strong, well-planned indoor-outdoor relationship, strong use of color, flexible use areas, spatial variety, child-buildable environments, fire-experience areas, water and sand-play areas, use of ceilings as display space, natural features in outdoor areas, definite attitudes toward close school-playground-community relationships, use of child scale in windows, furnishings, and level changes, numerous display surfaces (including child-draw-on types), flexible storage spaces, some provision for animals, and a great appreciation for natural light.



COVER

RECOMMENDATIONS

A few of the recommendations follow:

- following European standards, day-care centers should average 40-70 children
- workshops, adventure playgrounds, and other activities should be structured to attract men to what has traditionally been a woman's realm
- there is no best plan for a center, but the appearance should definitely not be institutional
- special effort should be made to integrate the facility into the urban fabric, because small children need to spend time in the center of things if they are to become familiar with adult life of the community
- outdoor play areas are as important as indoor play spaces and should receive equal planning consideration
- it is recommended that areas be provided for active and passive play, individual and group play, building with junk, and games
- indoor play areas can be divided into an active-quiet and group-individual activity and interest spaces
- walls, floors, doors and ceilings need special attention
- equipment and furnishings are best if they are a combination of old and new items

CONCLUSIONS

Because early childhood facilities house a large variety of programs and activities, there is no "best" facility plan for child care and development centers. Most successful centers appear to have borrowed the best ideas from analyzing many programs and buildings.

DESIGN GUIDES

The design guides section includes some guides written specifically for designers. Other guides were developed primarily for community groups who wish to design or improve facilities for children in their own neighborhoods, typically with limited resources and a great deal of community participation.

A PATTERN LANGUAGE

CHRISTOPHER ALEXANDER, SARA ISHIKAWA & MURRAY SILVERSTEIN
WITH MAX JACOBSON, INGRID FIKSDAHL-KING,
AND SHLOMO ANGEL

New York: Oxford University Press, 1977
Pp. 1171; illus., photos.

PURPOSE

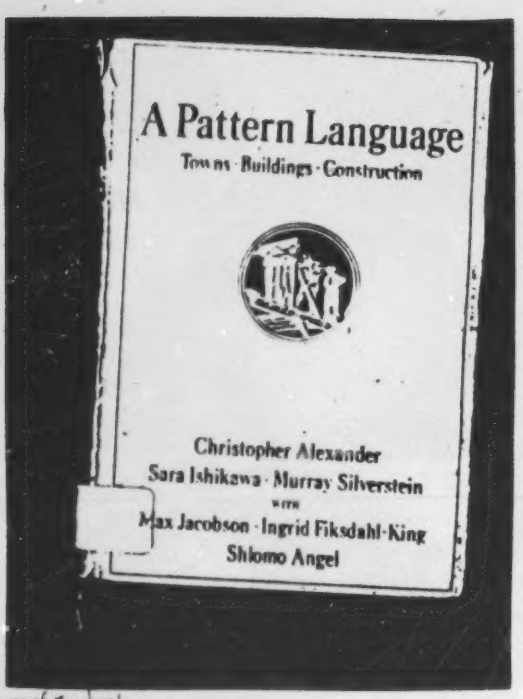
Christopher Alexander and his colleagues have arranged a series of provocative design ideas -- called patterns -- in order to create a logical, humanistic approach to planning and design. This book is the second of a projected three-volume series dealing with a revolutionary new approach to architecture and urban planning. This volume progresses from patterns for entire cities to patterns for buildings and construction details.

PROCEDURE

The authors have collected a vast amount of empirical research and expert opinion from which they have created each pattern. Each pattern has five parts:

- statement of some problem or issue
- statement and graphics of the class of solutions to that problem -- the pattern itself
- argument or justification linking the solution to the problem
- statement of the context(s) in which it makes sense to apply the pattern
- listing of other more specific patterns which extend or elaborate this pattern

The patterns were reworked, rearranged, and rewritten for a period of seven years until they flowed naturally from the research and fit together without major contradictions. There are 253 patterns altogether. The set of patterns defines a design process by which one works from the most general or broad-reaching patterns (e.g., neighborhood-based centers) to the most specific and finite patterns (e.g., discussing entry-ways to such a center).



cover of the book

RECOMMENDATIONS

Some patterns which are especially pertinent to the child's environment include Network of Learning, Four-Story Limit, Access to Water, Network of Paths and Cars, Children in the City, Connected Play, Adventure Playground, Animals, Accessible Green, Children's Home, Children's Realm, Child's Cave, plus many others which would profoundly affect children and adults alike.

Some examples:

- Children's Home -- "a place where children can be safe and well-looked after, night and day, with the full range of opportunities and social activities that can introduce them, fully, to society" (p. 427).
- Children in the City -- recommends an extra safe path through urban areas, separate from traffic, with lights, homes, and shops along it so there are always a lot of adults over-seeing the path, thus children can roam urban areas freely on bikes and trikes.
- Child Caves -- recommends using leftover spaces (e.g., under stairs) for a child's private spaces, and more specifically recommends ceiling heights of 2'6" to 4'0" only.
- Connected Play -- indicates that children must play with other children their own age to develop normally. The pattern is that play and housing must connect at least 64 families to ensure enough age mates for play.

COMMENTS

A most humane approach to designing, this book is critically important reading for all designers, planners, and architects. The patterns in the book are directly related to demonstrable human needs and are clearly presented and interconnected. The book is so readable and the patterns and information so fascinating that it is difficult to stop with any one pattern.

Some cautions, however, should be kept in mind. Being written by one of the best minds and most influential writers on architecture in decades, this book has been reviewed and criticized on a number of grounds. Though many of the patterns are based on a fair

amount of culled research evidence, others are based on a few casual observations and should be treated -- as the authors themselves recommend -- as hypotheses, not established truths or facts.

The book, while idealistic, is excellent in that it states what may be the best environments for human beings, but it is also based on certain life-style assumptions which may not be shared by everyone.

A PLAYGROUND FOR ALL CHILDREN

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Washington, D.C.: U.S. Government Printing Office, 1978. Book 1: Pp. 52; illus. Book 2: Pp. 39; illus. Book 3: Pp. 152; illus., bibliog.

PURPOSE

The primary result of the project described in these three booklets is the development, by the City of New York, of the nation's first outdoor public playground to be expecially designed for integrated play between handicapped and able-bodied children.

DESCRIPTION

The first booklet describes the special play needs of the children, ages three to eleven, who are expected to use the playground, along with their abilities and disabilities. It also describes the comprehensive preparation work that underlay the project, including site analysis and selection criteria.

The second booklet deals with the program for the design competition, devised by the City of New York to encourage the widest variety of approaches and solutions to this challenging assignment.

Illustration from cover

The third booklet -- the resource volume -- documents the playground's development and deals with both process and product. Included in it are the survey of existing playgrounds which was made in preparation for the competition by the research team, the four winning entries, and a description of other innovative concepts, designs, and play components.

COMMENTS

The third volume is especially useful to designers. The numerous photographs illustrating ideas from playgrounds surveyed are arranged by activity (sliding, swinging and rocking, balancing, etc.). The winning entries are reproduced *in toto* while especially good ideas from other entries are vignetted. Unfortunately, relationships between

children's developmental needs and ideas which would satisfy them are not clear. Needs are discussed in Book 1 and designs in Book 3. One must guess which design was planned to satisfy which need. It is therefore more difficult to evaluate and learn from innovative ideas presented by designers.

But overall, these are excellent source books which should present play-area designers with an enormous number of stimulating ideas. Since designs are planned for both handicapped and able-bodied children, they should be adaptable to almost any play situation.

A RIGHT TO BE CHILDREN

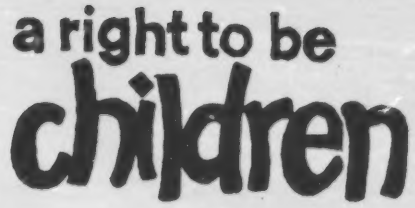
S. SUTCLIFFE

London: Royal Institute of British Architects Publications, 1976. Pp. 118; illus., photos, bibliog.

PURPOSE

This book is a record of the proceedings of two short courses held at the Institute of Advanced Architectural Studies, University of York, in 1974.

Its purpose is to present information with which to analyze day-care environments. By identifying "zones of activities," their individual characteristics and their overlaps with other zones, recommendations can be made for the design and arrangement of furniture and space, doors, window, finishes, color, and lighting. Particular consideration is given to identifying special needs of handicapped children in day-care programs.



logo for the book

DESCRIPTION

Throughout the book there is emphasis on the fact that children are not simply small adults. They have their own particular characteristics and vary from one another just as do adults. Their day-to-day and developmental needs require special consideration. If poorly planned, the day-care environment can hinder a child's learning processes and enjoyment of those processes.

Photographs, diagrams, and floor plans from existing centers illustrate children's play and learning activities. Activity zones are isolated, thoroughly analyzed, and the resulting design implications identified. Such analysis leads to a discussion of equipment and furniture, and finally, to the grouping of children and adults.

RECOMMENDATIONS

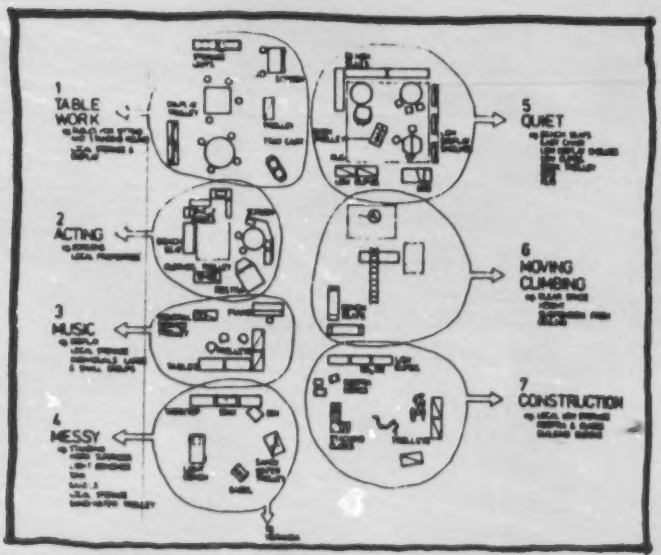
Day-care furnishings are often too elaborate and finished to provide young children with challenges. Versatility of furnishings is essential. There should be a relationship of color, material specifications, and dimensions which allow different combinations

and arrangements. Easels and screens for drawing and display, for example, offer economical possibilities for quick division of space.

Handicapped children require special consideration. Quiet areas for withdrawal, while needed for all children, are especially valuable to handicapped children whose concentration spans may be shorter. Play-space surfaces should accomodate handicapped children and not impede or endanger their movement. Multi-level spaces and textures indoors and out encourage less-mobile children to move about to explore the environment.

CONCLUSIONS

The influence of their surroundings can affect a child's learning capacity, skills, personality, and attitude. Day-care environments offer the opportunity to provide challenging sensory-learning experiences.



typical annotated plan illustration

BUILD YOUR OWN PLAYGROUND!

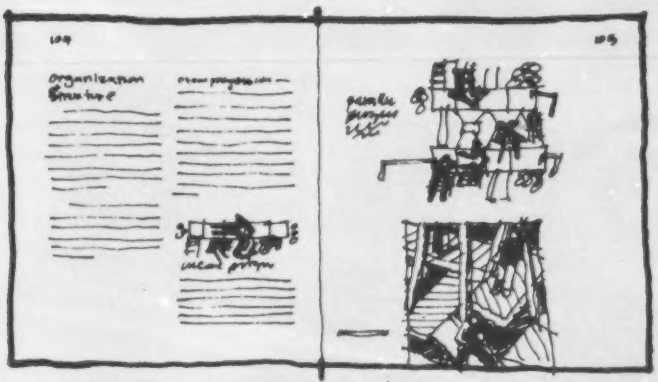
JEREMY J. HEWES

A Sourcebook of Play Sculptures, Designs, and Concepts from the Work of Jay Beckwith

Boston: Houghton Mifflin, 1974. Pp. 223; illus., photos, bibliog., index.

PURPOSE

The purpose of this book is to convey both specific planning and building information and a sense of what a community-built playground means to its creators. The author's and designer's hope that the ideas and instructions here will help many people become observers and participants in creating play spaces for children everywhere. Examples are drawn from the early work of Jay Beckwith, a California playground designer



Typical layout showing text and diagrams

DESCRIPTION

Hewes participated with Beckwith as he worked with community groups to build play areas. Hewes photographed the process and the product and recorded what happened and things learned along the way.

The book is really a basic how-to-do-it manual for community groups. Information is included on safety, building play into the environment (and protecting natural areas), practical considerations (site, money, materials, planning, building, involving children), vandalism, building with wood (types of wood framing, organization of structures, discov-

ering a theme), equipment for active play, equipment for climbing play, equipment for quiet play, other necessary equipment, planning the play environment, the actual construction phase, play for "special children," and projects related to play (art, film, drama, gardens, zoos, adult play). Some other helpful information included are three charts -- "some considerations for playground design," "materials that can be found for free or very little," and "inventory of basic needs."

COMMENTS

A very fine basic book for community groups or designers planning to build playgrounds. Although groups should probably also read Paul Hogan's *Playgrounds for Free,* and Gail Ellison's *Play Structures,* as well as more conceptual books like Lady Allen's *Planning for Play,* (all abstracted herein), this book adds concise information and should prove especially useful for community self-help groups.

CHILDREN IN RESIDENTIAL AREAS

CLARE COOPER MARCUS

Landscape Architecture, October 1974, *65(5)*, 372-378, 415-416.

PURPOSE

Based on her own empirical research (see *Easter Hill Village*, 1975), and empirical data on the use of moderate-density housing by families and children from many other sources (202), the purpose of Clare Cooper Marcus' paper is to develop new design guidelines. Extensive reference is given to these sources and empirical data supports each of the 36 recommendations.

FINDINGS

A sample of the findings follows:

- children use outdoor space more than adults do
- children like to play in moderate-sized spatially-enclosed areas
- children prefer varied play environments
- children play on pavement more frequently than on grass

RECOMMENDATIONS

Some recommendations based on the findings are:

- families with small children should be ground level or one story up only
- boundaries should be strongly defined between private and public outdoor space
- trees should be selected for climbing value
- play areas should be separated by age for safety
- provide adventure play if possible
- provide a number of small closely-spaced play areas -- not large widely-spaced ones

CONCLUSIONS

Cooper Marcus says of her study and recommendations: " It is hopefully just a start in the very necessary task of linking social science and environmental design."

COMMENTS

These are very useful guidelines, well-supported by research. Because it appears in a magazine, it is necessarily abbreviated and explanations of the guidelines must remain at a surface level. The reader can easily locate the sources through the footnotes if more information is desired.

Also by the same author:

Cooper, C. *Easter Hill Village: Social Implication of Design.* New York: Free Press, 1975.

Cooper, C. Adventure playgrounds. *Landscape Architecture,* October 1970, 18-29, 88-91. (Reprinted; see abstract for *Alternative Learning Environments*.)

Cooper Marcus, C. Children's play behavior in a low-rise inner-city housing development. In D.H. Carson (Gen. Ed.) *Man-Environment Interactions,* Part 12. Stroudsburg, PA: Dowden, Hutchinson & Ross, 1974. Pp. 197-211.

CREATIVE OUTDOOR PLAY AREAS

PEGGY L. MILLER

Englewood Cliffs, N.J.: Prentice-Hall, 1972. Pp. 121; appendix, bibliog., index.

PURPOSE

Miller states that she is writing for a variety of readers, including professional educators, architects, real-estate developers, city planners, parents, park and recreation area designers, and students of physical education. She further states, "This book is especially directed towards improving play areas provided on school sites where children probably spend more time in play activities than anywhere else" (p. xv).

RECOMMENDATIONS

After discussing play as it relates to children's learning and the importance of outdoor play, Miller gives general guidelines for developing creative outdoor play areas. Specific guidelines focus on natural topographic features, creative play equipment, comprehensive play areas, children's gardens, children's farms, and nature areas. In a final section, she gives information for anyone wishing to plan, develop, and operate creative outdoor play areas.

Illustration of animal play areas

Among major recommendations, Miller urges:

- preserve natural topographic features of the play site
- use natural, inexpensive, unlimiting equipment that is manipulable by children
- plan comprehensive play areas to include as many features as possible (topographic and equipment)
- provide areas where children can grow whatever plants they wish
- provide children's farms to reacquaint children with sources of daily food
- provide children's nature areas to "supply youngsters with outdoor experiences which

help to develop an awareness and appreciation of nature" (p. 90).

COMMENTS

Although Miller's book isn't as heavily documented as some others, she provides some information and recommendations which are not as extensively treated elsewhere (e.g., children's gardens and children's farms). The section on creative play equipment is not recommended. Much better information is provided in other books abstracted in this document.

ENVIRONMENTAL CRITERIA

TEXAS A&M UNIVERSITY

MR Preschool Day Care Facilities

College Station, Tx.: Texas A & M University, College of Architecture and Environmental Design, 1969. Pp. 108; illus., photos, bibliog. (out of print)

PURPOSE

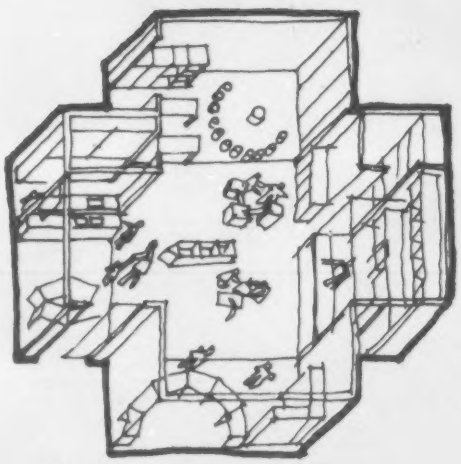
The report is a working document for educators, administrators, architects and designers who are developing preschool day-care facilities for mentally retarded, culturally deprived, and normal children. The document includes planning and design guidelines with the goal of setting "state-of-the-art" standards for design criteria reports and preschool day-care facilities.

PROCEDURE

The research procedures were not presented in the document beyond the fact that a variety of educators and consultants were used to review the report. The procedure for the project is generally reflected, however, in the six parts of the report.

DESCRIPTION

- day-care services: current status and trends in day-care services
- day care programs: curriculum objectives for various groups of day-care children
- program implications: ways architectural environments can support curriculum objectives
- environmental implications: general characteristics of environments and their potential to support educational objectives
- day-care facility: lists by topic specific requirements for spaces identified as appropriate to day-care centers
- case studies: demonstrates several alternative designs for centers based on educational program requirements and design criteria in the guide



modular unit recommended as one type of solution

The report includes a bibliography that is referenced throughout the report to support some of the recommendations.

Some general observations from the report indicate that preschool programs should be planned to take advantage of existing community resources and natural amenities. Preschool facilities take on many forms but should reflect their own environment. Surfaces, materials, colors, and textures can be combined to provide flexible, usable spaces responsive to children and their caregivers.

COMMENTS

This report is a state-of-the-art document and design guide for preschool day-care centers. Very little information is specific to facility requirements for mentally retarded children. The emphasis is on specific environmental criteria (color, HVAC, etc.) -- no discussions appear about imagery, overall design concepts, open versus closed plans, and other principles which would organize the building and site as a whole.

The graphics and printing, including color photographs, are excellent. Library use is necessary as the report is now out of print.

FOUND SPACES AND EQUIPMENT FOR CHILDREN'S CENTERS

EDUCATIONAL FACILITIES LABORATORIES

New York: Educational Facilities Laboratories, 1972. Pp. 71; illus., photos, bibliog.

PURPOSE

This book, actually written by Richard J. Passantino, a Washington, D.C. architect, presents ideas and examples for parents, teachers, administrators, and designers for developing their own child care facilities with minimal start-up costs.

PROCEDURE

Passantino visited pre-schools and child care centers in the U.S. and abroad. Many more centers were surveyed than are included in the book. An architect, Passantino himself has been very involved in designing early childhood facilities.

DESCRIPTION

The book is organized in five parts: types of places, furniture and equipment, outdoor spaces, outdoor equipment, and implementation procedures. Suggestions are included about types of places which can be used, such as supermarkets, warehouses, small stores, residences, apartment buildings, office buildings, churches, old public schools, and farm buildings; furniture and equipment for teaching, storing, privacy, togetherness, resting, jumping, crawling, climbing, and sitting; ways to get outdoor space on rooftops, in backyards and public spaces, and in vacant lots; outdoor areas such as plant, animal spaces, building and construction places, sand play, climbing spaces and equipment, and more; and a last chapter on how to go about starting a center, sources for help, licensing requirements and codes, and a checklist of useful "found objects."

typical page

CONCLUSIONS

Though the text is scant, the photographs carry Passantino's conviction that ingenuity and willingness to work are in fact substitutes for large expenditures.

COMMENTS

This is a useful book for parents and staff as a stimulation to creativity. The photographs portray many uses for ordinary materials which can be adapted immediately to many child-care situations. This is a very good monograph to make widely available to self-help groups.

Also by the same author:

There are a series of useful books and reports from Educational Facilities Laboratories, some written by their staff and some written by others. See also the following abstracted herein:

Moore, G. T., Cohen, U., Oertel, J., and Van Ryzin, L. *Outdoor Environments for Exceptional Education*. New York: Educational Facilities Laboratories, 1979 (in press).

Osmon, F. L. *Patterns for Designing Children's Centers*. New York: Educational Facilities Laboratories, 1971.

HANDCRAFTED PLAYGROUNDS

M. PAUL FRIEDBERG

Designs You Can Build Yourself

New York: Random House, Vintage Books, 1975. Pp. 122; illus, photos.

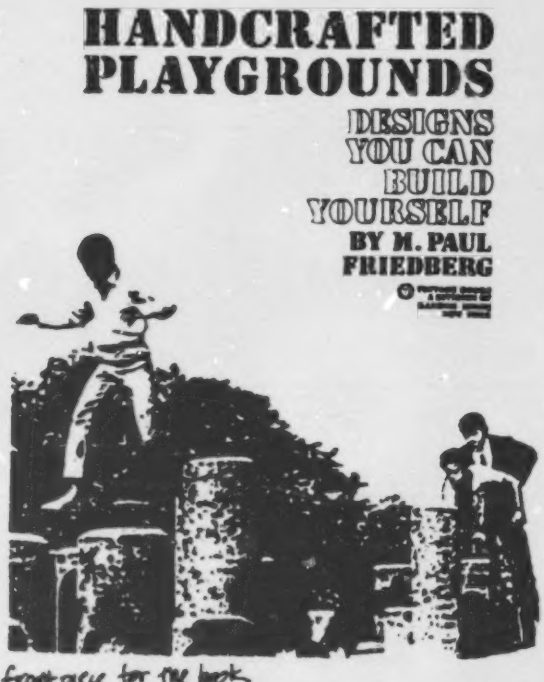
PURPOSE

This book was written on the premise that "anyone can build a playground and the actual process of building it can be as important as the finished product. It gives the builders (which should certainly include the children for whom it is planned) a chance to shape their environment, to create something to answer their specific needs" (p. 1).

PROCEDURE

Friedberg has selected readily available materials such as barrels, ladders, cans, tires, lumber, etc., and used them in specific designs which can be easily constructed by amateurs.

DESCRIPTION



front piece for the book

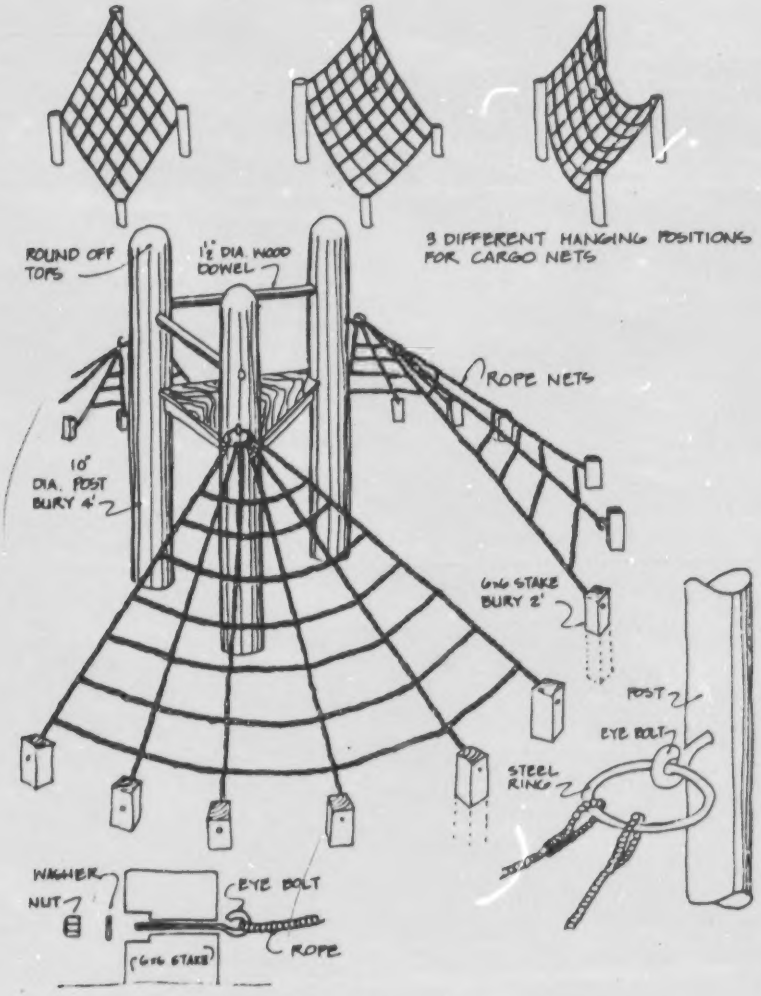
Apart from a brief introductory section on kinds of play (physical, social, and cognitive), the rest of the book is comprised of clearly-drawn designs which show enough detail to maximize easy construction. A matrix of kinds of play relates to the designs, showing which designs are expected to provide the three types of play. Another matrix shows where to obtain the various materials which are used in the designs, e.g., types of cables and fasteners available from a hardware store, a marine supply house, or a wire and chain company.

Sketches at the end of the book illustrate the various hardware and tools called for in the designs so that anyone unfamiliar with the terms cable clamp, locking plier wrench, combination square, etc. will be able to spot one when needed.

COMMENTS

This is a practical book, one to be used in conjunction with other self-help books such as *Build Your Own Playground* and *Playgrounds for Free* (abstracted herein). While presenting many ideas and how-to-do-it tips, this book would benefit from more direct emphasis on the relationship between developmental goals and type of equipment. Further, the relationships in location and layout between the various kinds of equipment is not developed.

Parents and volunteers can get some good construction ideas from this book, but must go elsewhere for broader architectural and landscape architectural consideration.



typical page from the book

THE NATURE OF RECREATION

RICHARD SAUL WURMAN, ALAN LEVY, & JOEL KATZ.

A Handbook in Honor of Frederick Law Olmsted, Using Examples from his Work

Cambridge, Ma.: MIT Press, 1972. Pp. 76; illus., photos, bibliog.

PURPOSE

The stated aim of this book is to help the reader learn to make constructive statements about recreational and play needs of all age groups. A large, colorful, modular format entices the reader into a consideration of what people actually require from their environment to make play possible.

DESCRIPTION

The book begins with a description and checklist of basic play needs. These needs are then analyzed by performance components such as young-old, small-large, active-inactive, linear-nonlinear, movement, maintenance, etc. Using these analyses, the text suggests how to locate available resources and possible sites, develop a design program, identify existing and future recreational possibilities, and plan development of chosen possibilities.

Included as examples throughout are text, photographs, and plans of the work of Olmsted, the father of landscape architecture and recreation planning.

RECOMMENDATIONS

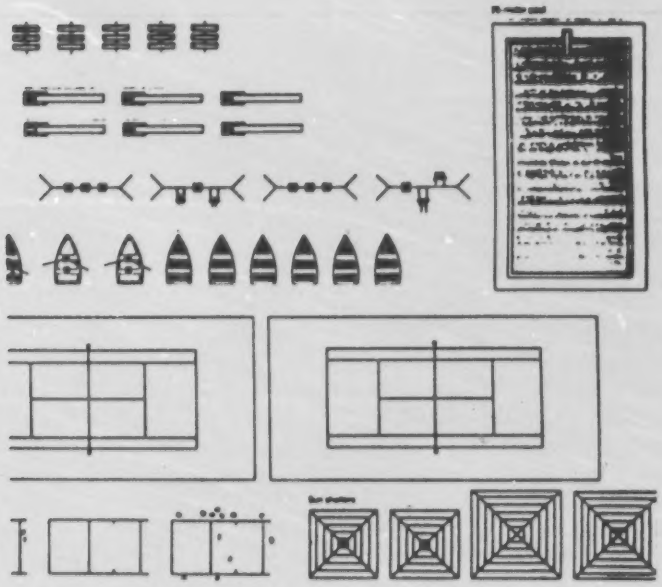
This publication advocates a diversity of spaces and multiplicity of choices for all people. Spaces where people can roll down a hill, find a wild flower, have a chat on a bench, run in a sack race, observe insects, play house, or build a snowman are all advocated.

Further, this book is based on the premise that all people who are concerned about play and recreation are capable of becoming involved in choosing and planning these spaces. The authors encourage careful

consideration of spaces for play in all possible use aspects. They also include a number of games and user-based information gathering devices which can be used by community groups to plan and design recreation facilities including play areas.

COMMENTS

While this publication is concerned with the recreation needs of all age groups, the approach used is so delightful, and the information and insights are so helpful, that all people interested in recreation planning and design for play should read it. The book is beautifully illustrated with photographs, drawings, and diagrams.



"push-out" parts for a game in laying out a park

DESIGNING ENVIRONMENTS FOR HANDICAPPED CHILDREN

A Design Guide and Case Study

GARY T. MOORE, URIEL COHEN, JEFF OERTEL, AND LANI VAN RYZIN

New York: Educational Facilities Laboratories, 1979. Pp. 96; illus., photos, bibliog., index.

PURPOSE

collage illustrations for design principles

Designing Environments for Handicapped Children is the result of an applied research, programming, and design project conducted for the St. Francis Children's Activity and Achievement Center for Milwaukee. The Center is a special education facility for children with cognitive, emotional, social, and, in a few cases, physical disabilities which exclude them from the mainstream of public education.

The objective of the project was to generate a developmentally-oriented and behaviorally-based design guide applicable to a wide range of exceptional education contexts and settings.

PROCEDURE

The procedure consisted of collecting related research and design literature, interviewing administrative and teaching staff, and making observations of children's free play behavior. An architectural program was developed and used for conceptual design.

FINDINGS

The main results of the study are presented in the form of thirteen principles for the design of play/learning environments for exceptional children. The study indicates that learning environments must provide environmental cues for the child which aid understanding of where to go, how to use equipment, and how to understand the environment in general. Activity areas must be clearly defined and alternative directions and activities visible to the child. Overstimulating environments should be avoided but there should be a wide variety of high and low places and in-between views geared to the various skill levels of the children.

Specific play settings (places of graded challenge, clear accomplishment points) and non-specific elements (loose parts) provide a range of choices for role play and learning how elements fit together to make a whole.

COMMENTS

This project demonstrates that it is possible to successfully link the findings of behavioral scientists and allied professions to design ideas. The project's output has been to develop a generic program using an experimental format and stressing child development goals and design principles applicable to a wide range of indoor and outdoor environments for exceptional education.

Originally printed in limited edition by the University of Wisconsin-Milwaukee, this design guide is now available from Educational Facilities Laboratories.

PATTERNS FOR DESIGNING CHILDREN'S CENTERS

FRED LINN OSMON

New York: Educational Facilities Laboratories, 1971. Pp. 128; illus., bibliog.

PURPOSE

The author writes, "This book is a summary of the issues involved in the design of a Children's Center .... The patterns should be a take-off point for the director, the teachers, and the architect (the design team) to begin thinking about the daily program for a Center and the parallel requirements for a physical environment."

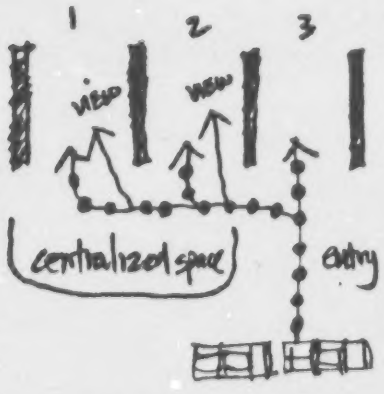
The author, an architect with considerable experience in the design of child-care facilities, culled the research literature up to 1970. Design recommendations are based on his reading of that literature.

No.12 Entrances
Typical diagramatic illustration

The book consists of a series of 35 patterns for the planning and design of children's centers. Osmon defines a pattern as a package of design criteria whose solution is focused on a distinct part of the physical environment. In some cases there is a concrete solution, for others there is a variety of solutions to solve a particular problem.

RECOMMENDATIONS

Osmon recommends that core programs for any community consist of group care for children aged 2-5, with facility sizes ranging from 12 to 100 children. It is suggested that centers may be located near a child's home or near places of employment convenient for parents.



No.10 Transitions
Typical diagramatic plan

Importance is placed on the center's image which should "welcome" the approaching adult and child.

Within the building, Osmon suggests that some parts of the physical environment be child-scaled while others should be adult-sized to be convenient for the caregiver. At a carefully planned center, interior spaces which are friendly and non-institutional in their design will dispel the

child's doubts about being in a strange environment. Requirements for play and learning activity areas are carefully stated to insure safety, convenience, and control within the building.

A comprehensive series of patterns illustrated by diagrams, carefully details interior and exterior space requirements for play and learning environments and lists several alternative solutions for each issue.

COMMENTS

The book offers a carefully considered rationale for each recommendation which is made. It provides the information necessary to allow readers to constructively respond to their community's day-care needs.

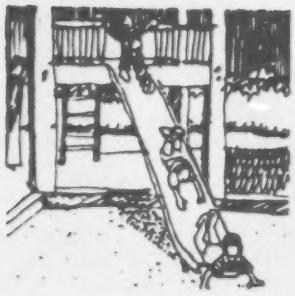
PLAY SPACES FOR PRESCHOOLERS

CENTRAL MORTGAGE AND HOUSING CORPORATION

Design Guidelines for the Development of Preschool Play Spaces in Residential Environments

Ottawa: Central Mortgage and Housing Corporation, 1978 (in English and French). Pp. 46; illus., photos.

PURPOSE



typical sketch

A brief design guide published by the Canadian agency most concerned with housing and urban development, this book was intended to help designers of new and renovated housing better integrate play spaces into design and thereby make housing responsive to children's needs for play. The book was prepared under the direction of Polly Hill, a special children's advocate in Canadian government, and by William Rock, Jr., a landscape architect with considerable experience with children's environments. No specific methodology is given for deriving the criteria, but research results are used without citations.

DESCRIPTION

The major topics for which criteria are listed include size and location of play space, design of play space, organization of play space, landscape consideration, and operation of play space. Introductory information on the importance of play and characteristics of the pre-schooler preceed criteria. Three design solutions showing the use of recommendations are given at the end.

CONCLUSIONS

Some major criteria indicate that the following would be an ideal residential-based play area for young children:

- a small area (100-300 m^2) within sight and sound of home
- an enclosure for privacy and protection

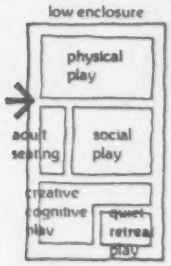
- separation of spaces for physical play, social play, creative-cognitive play, and quiet, retreat play
- varied plants, surfaces, and natural elements

COMMENTS

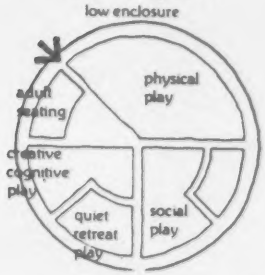
At all levels, this guide is excellent. The photographs, graphics, and diagrams are well chosen and illustrative of written concepts. There is just enough text to whet the designer's appetite for more information and more complete design recommendations. This is a source which can be read as a primer of the basics and as a lead-in to other source books and more detailed design guides.

conceptual plans for a:

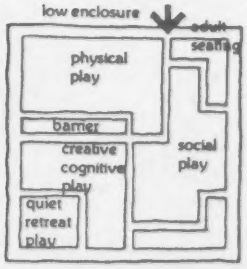
linear space



circular space



square space



PLAY STRUCTURES

GAIL ELLISON

Questions to Discuss, Designs to Consider, Directions for Construction

Pasadena, Ca.: Pacific Oaks College and Children's School, 1974. Pp. 90; illus., photos.

PURPOSE

The purpose of this book is to relate the educational and philosophical rationale for play environments to actual outdoor equipment and structures built for and by children.

DESCRIPTION

Using quotations from many experienced play-area designers and numerous photographs and verbal descriptions of existing examples, Ellison discusses children's needs and how to meet them through the outdoor built environment. The chapters include:

- master planning: should we design a whole yard or a single structure?
- choosing materials: which materials should we use -- wood? telephone poles? rope? tires? metal? concrete? fiberglass? rocks and trees?
- meeting safety requirements: how much must we modify our design to meet the safety requirements of insurance carriers and city building codes?
- building the structure: who should build the structure -- children? adults? both? contractor? how do we go about the task of actually organizing the task and building the structure?
- finishes: how about details? should we paint the structure?
- enhancing existing structures: how could we extend what we already have?
- stretching the imagination: summary of

rope and telephone poles

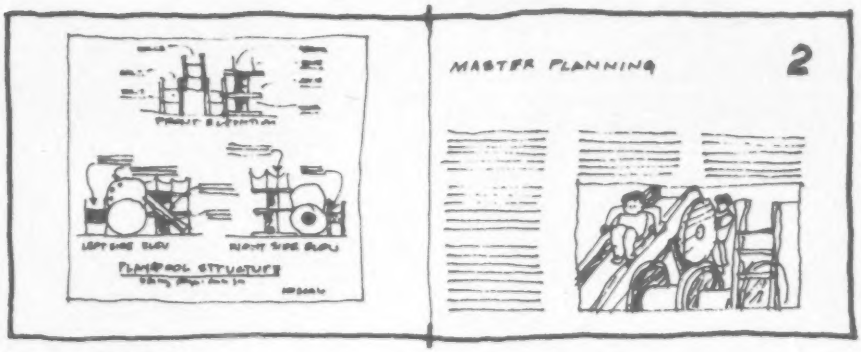
questions and suggestions. What else could we do?

Also included are many plan drawings and construction details for various structures or pieces of equipment.

COMMENTS

This is a very practical and usable guide for any person or group wishing to build a play area. Non-technical language and a pervasive concern for children's needs make this a superior book for parents as well as designers.

Also helpful is a list of designers and organizations circa the early 1970's with addresses to write to for additional help. (Caution: the list is West coast biased, some of the addresses are no longer valid, and there now are other designers and organizations of particular note.)



typical page

CONCLUSIONS

Hogan feels strongly that neighborhoods must want playgrounds for any construction to be a success. There should be a strong neighborhood organization which is pledged not only to work on designing and building the playground, but also to maintain and supervise it. Interested people must be willing to take responsibility for controlling the area and maintaining the playground.

COMMENTS

This book is an excellent advocate for community involvement in playgrounds, and is an important reading for any group preparing to build their own playgrounds.

THE URBAN NEST

ANNE-MARIE POLLOWY

Stroudsburg, Pa.: Dowden, Hutchinson & Ross, 1977. Pp. 162; illus., bibliog., index.

PURPOSE

Pollowy examines the research literature about the child in urban and suburban settings and then offers recommendations on how to make settings more sensitive to child needs. She states, "Children are the most intense users of our housing environment. Their requirements are as critical as those of adults, more so if we consider that by the nature of their being they are limited to the confines of the near dwelling" (p. viii).

PROCEDURE

In the first two sections, Pollowy draws from a large sampling of empirical research done by others. (She cautions that this means traditional sex-role stereotyping was rampant. She says she has tried to alter the wording to erase the stereotypes but hasn't totally succeeded.) Research is reviewed in child development (physical, social, intellectual, and perceptual) and the physical environment (residential settings, private domain, group domain, and planned child spaces).

In a third part, Pollowy synthesizes the spatial attribute of children's requirements derived from the reviewed research as a means of relating environmental settings to specific design objectives. The design guidelines are quite specific and grow directly from the research studies cited.

RECOMMENDATIONS

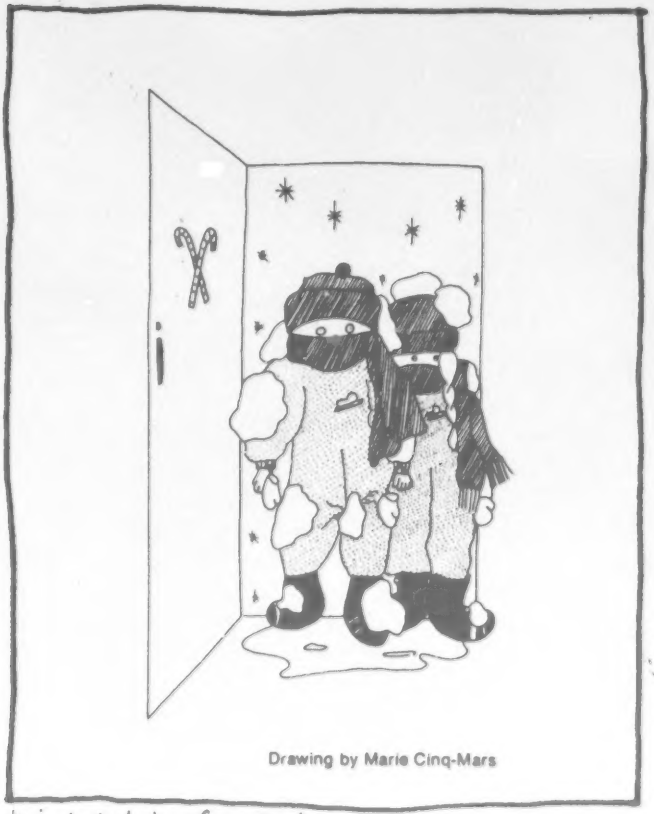
A sampling of guidelines includes:

- bathrooms--provide more than one bathroom for families with two or more children
- bedrooms--provide private space for each child

- provide private outdoor space for each family with children, linked directly with indoor family space
- play areas should be close to dwellings and adult activity areas
- play areas should provide a feeling of enclosure but not isolation
- play area size should be related to number of children (32 sq. ft. per child)
- provide varied landscaping for play areas

COMMENTS

The only book available which specifically focuses on the child in the residential setting, this is an extremely useful compilation of research with some well-founded design implications drawn by Pollowy. The index makes the information gathered here accessible for quick reference.



typical illustration from the book

BIBLIOGRAPHIES

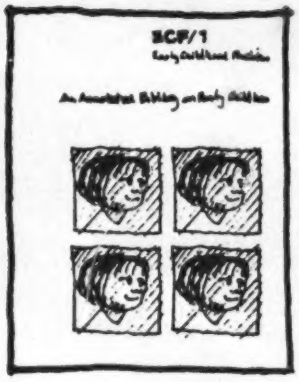
AN ANNOTATED BIBLIOGRAPHY ON EARLY CHILDHOOD

UNIVERSITY OF MICHIGAN

Early Childhood Monograph ECF/1

Ann Arbor: University of Michigan, Architectural Research Laboratory, 1970. Pp. np.

PURPOSE



Architectural researchers at the University of Michigan began a project in 1969 to determine the environmental conditions and facilities which can be considered most desirable for the care and development of groups of children from birth to about 6 years of age.

This resulting series of abstracts covers a wide range of topical areas concerned with the relationship of the young child to the environment and is intended to be a source of information as well as a directory to other information sources.

DESCRIPTION

Abstracts are organized under the following headings: child development, health programs, infants and toddlers, educational programs, the disadvantaged child, the handicapped child, day care, Project Head Start, kindergartens, staff programs, community programs, standards, licenses, codes, funding, physical facilities, outdoor play, equipment, periodicals, bibliographies, film sources, and organizations.

COMMENTS

One hundred and fifty articles are reviewed and the major findings and conclusions of each are reported. Many books on the theory of child care and development are included so that no one theory dominates. In addition, there are practical recommendations and guidelines for planning and designing children's facilities. Even though this publication was published in 1970, it is an excellent starting point for reviewing the child-environment field, because the authors have been careful to choose the most pertinent works available up to the date of publication.

BIBLIOGRAPHY

An extensive library and bibliography of more than 800 items on child play, child development, child care and play environments, and other relevant topics were assembled at the Center for Architecture and Urban Planning Research, UWM.

The complete bibliography, organized by alphabetical listing or subject/topic listing will be available upon request.

The following section includes a sample bibliography organized by specific topics to demonstrate the potential and format of a SPIN-generated bibliography.

SAMPLE OF A SPIN-GENERATED BIBLIOGRAPHY

SAMPLE PARTIAL CLASSIFIED SUBJECT LISTING

COMMUNITY BASED PLAY AREAS

ALEXANDER, C., ISHIKAWA, S., & SILVERSTEIN, M. [1968]
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